

# YIELDS OF BARLEY IN THE UNITED STATES AND CANADA 1927-31

By

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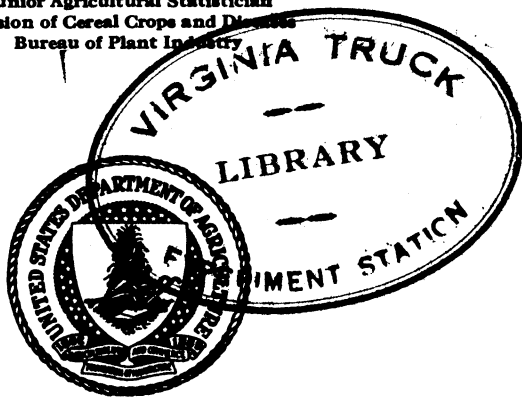
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UNITED STATES DEPARTMENT OF AGRICULTURE, WASHINGTON, D.C.

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WASHINGTON, D.C.

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## INTRODUCTION

### GENERAL

This bulletin reports the yields of barley secured on the testing fields of the United States and Canada during the 5 years, 1927-31. The bringing of these results together essentially doubles the value of the tests on both sides of the boundary. Many farmers in the United States are operating farms located in sections better served by nearby Canadian stations than by their own, where these are distant. The converse is also true.

The textual matter has been reduced greatly beyond that of former publications for reasons of economy in printing.

Percentage comparisons have been made to facilitate the use of the data. These percentages are calculated on the total yields of the varieties for the years grown. While this is highly accurate, it is not always identical with results that would have been secured by the use of average yields.

During these 5 years there has been an increase in the use of row tests at the expense of plot tests.

As far as possible local recommendations have been included as to varieties and rate and date of seeding. It is thought that this inclusion will add to the value of the bulletin.

As in previous reports, the data are contributions of many agencies, and the Division of Cereal Crops and Diseases has acted only as an agency for compilation and for calculating the averages and percentages. It is believed that nothing has been included in the discussion of any station that has not had the approval of those in charge of that station.

#### CANADA

The bulk of the data from Canada consists of results obtained by the Dominion Experimental Farms. This is, of course, an extensive testing agency, and responsibility for the presentation of the results has been accepted by P. Russell Cowan as an author of this bulletin. This, naturally, will not be taken to mean that the material from the independent provincial agencies in Canada is not on an absolutely equal footing in authorship, but only that, due to the number of stations, the task of preparing the material from the Dominion Experimental Farms has been a little more onerous.

Most of the Canadian results have been secured from replicated rows. At the stations under the direction of the Dominion Experimental Farms the plan of 4 series of 5 rod-row blocks to a variety was used. These 5 rod rows, sown 7 or 10 inches apart, are reduced to 3 at harvest time, the yields of the 3 being considered as the yield of a plot. The only exception is at Fort Vermilion, where yields are reported from four 1/100-acre plots.

At the University of Alberta the tests were conducted in 4 series of 3 rod-row blocks, with rows 12 inches apart, the center rows of which were harvested. The yield, therefore, represents an average of 4 center rows.

The tests at MacDonald College were conducted in 1/100-acre plots with varying numbers of replications and those at the Ontario Agricultural College in triplicated plots.

At the University of Saskatchewan the tests were made in groups of 6 replicates, consisting of 3 rod rows each, of which the center rows in each case were harvested. The arrangement of the 3-row groups was in accordance with the Latin-square system.

### RESULTS BY STATIONS

#### ARIZONA

Varietal tests of barley were conducted at two points in Arizona during the period 1927-31. Results at the Salt River Valley Farm, Mesa, Ariz., are reported by I. A. Briggs, of the Agricultural Experiment Station at Tucson. The plot tests of barley at the United States Field Station, Sacaton, were made by the Division of Cotton, Rubber, and Other Tropical Plants.

#### SALT RIVER VALLEY FARM, MESA

I. A. BRIGGS, *associate agronomist*

The leading varieties in the yield test at Mesa are Common Six-Row, Trebi, Club Mariout, and Sacramento. The yield of Sacramento has been high, but it is rather late to fit well into the cereal program where summer cropping of small-grain land is practiced. Club Mariout produced a slightly higher yield than Common Six-Row in the previous 5-year period (1922-26), but it yielded decidedly less in the years

reported in table 1, as well as in the combined period of 10 years (1922-31). There has been little difference between the yields of Trebi and Common Six-Row. Common Six-Row and Sacramento are recommended for southern Arizona, the latter variety being favored on rich lands where strength of straw is important. Trebi is recommended for elevations above 3,500 feet.

For pasture purposes, for which much of the barley is used, the seed should be sown as early in the fall as danger from hot weather is past. This is not earlier than September 25 for the Salt River Valley. For elevations of 7,000 feet, sowings should be made from April 15 to May 15. Sixty pounds per acre for grain purposes is recommended for midseason sowings and 90 pounds when barley is wanted for winter pasture.

TABLE 1.—*Acre yields of varieties of barley grown at the Salt River Valley Farm, Mesa, Ariz., and at the United States Field Station, Sacaton, Ariz., in 1 or more of the years 1927-31*

[Data for Mesa obtained through the courtesy of the Arizona Agricultural Experiment Station and for Sacaton through the courtesy of the Division of Cotton, Rubber, and Other Tropical Plants]

Station and variety	C.I. no. <sup>1</sup>	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Years	Yield	
Mesa:			Bu.		Bu.		Bu.		Bu.		Bu.		Percent	
Common Six-Row.....	4625	1	33.7	6	76.8	6	60.2	3	88.7	4	70.5	66.0	5	101.0
Trebi <sup>2</sup> .....	936	1	42.1	3	65.7	3	59.5	3	71.3	4	88.1	65.3	5	100.0
Beardless.....	4627	1	49.2	3	53.9	3	54.7	3	67.4	4	67.6	58.6	5	89.6
Club Mariout.....	261	1	36.1	3	62.5	3	61.8	3	68.0	3	67.3	59.1	5	90.5
Sacramento.....	4108	---	---	3	78.4	3	66.1	3	79.7	8	79.7	---	4	106.8
White Smyrna.....	195	---	---	3	49.4	3	55.8	3	77.3	---	---	---	3	92.9
Coast.....	690	---	---	---	---	3	62.1	---	---	---	---	---	1	104.4
Sacaton:														
Coast.....	690	4	38.2	---	---	2	65.1	7	63.7	1	55.3	---	4	118.4
Club Mariout.....	261	4	39.5	1	32.7	1	69.6	7	57.6	1	55.3	50.9	5	120.9
Trebi <sup>2</sup> .....	936	4	42.2	1	22.9	1	41.6	4	58.5	1	45.5	42.1	5	100.0
Orel.....	351	4	25.5	1	23.4	1	34.8	3	30.7	1	32.8	29.4	5	69.9
Peruvian.....	935	4	47.0	1	60.5	---	---	---	---	---	---	---	2	165.1
Hero.....	1286	4	47.0	---	---	2	71.8	7	54.3	1	60.7	---	4	124.5
Meloy.....	1176	3	36.1	---	---	---	---	---	---	---	---	---	1	85.5
Sandrel.....	937	3	45.0	---	---	---	---	---	---	---	---	---	1	106.6
Wisconsin Winter.....	2159	3	12.5	---	---	---	---	---	---	---	---	---	1	29.6
Vaughn.....	1367	---	---	2	56.3	6	66.1	1	58.8	---	---	---	3	147.3

<sup>1</sup> Serial accession number of the Division of Cereal Crops and Diseases, formerly Office of Cereal Investigations.

<sup>2</sup> Standard variety with which others are compared.

#### UNITED STATES FIELD STATION, SACATON

C. J. KING, *agronomist and superintendent*

The leading varieties at Sacaton are similar to those at Mesa. Vaughn, Club Mariout, Coast, and Trebi are recommended. These recommendations are based on a combination of yields and observations. Vaughn is by all odds the most promising. It is stiff-strawed and produces high yields. Although the yield of Hero reported in table 1 is very good, it is considered too late for general seeding.

## ARKANSAS

## AGRICULTURAL EXPERIMENT STATION, FAYETTEVILLE

C. K. McCLELLAND, *assistant agronomist*

Barley is an unimportant crop in Arkansas. Varieties have been grown at Fayetteville simply to secure definite information on the possibilities of the crop. As shown in table 2, there are occasional years in which the crop is destroyed by freezing. However, most of the winter varieties grown have produced fair yields. There was a variation of only 35 percent in the average yield of the varieties grown in all 5 years. Selection 6 (C.I. 4678)<sup>1</sup>, secured from the Kentucky Agricultural Experiment Station, produced the highest average yield. Several other varieties were of almost equal promise.

These results are quite in accord with those secured in 1924, 1925, and 1926. Previous to 1926 experiments with spring varieties showed that spring seeding was not advisable. The most favorable time for seeding is the first week in October. The most satisfactory rate of seeding is 7 pecks per acre.

TABLE 2.—*Acre yields of varieties of barley grown at the Arkansas Agricultural Experiment Station, Fayetteville, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Arkansas Agricultural Experiment Station]

Variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928 <sup>1</sup>		1929		1930		1931		Average yield, 1927-31	Years	Yield
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Kentucky winter (commercial)	4641	1	Bu.	1	Bu.	1	Bu.	1	Bu.	1	Bu.	Bu.	5	Percent
Alaska (B. P. I.) <sup>2</sup>	4106	1	13.8	1	0	1	13.2	1	30.9	1	33.1	20.3	5	77.5
Tennessee Winter Selection 47	3542	1	18.1	1	0	1	21.5	1	29.8	1	43.0	20.0	5	76.2
Tennessee Winter Selection 52	3543	1	17.5	1	0	1	16.0	1	36.1				4	94.7
Tennessee Winter Selection 57	3544	1	20.6	1	0	1	25.9	1	24.1	1	49.3	21.4	5	81.7
Tennessee Winter Selection 61	3545	1	15.0	1	0	1	29.2	1	25.2	1	38.4	22.0	5	84.1
Orel (B. P. I.) <sup>3</sup>	351	1	12.5	1	0	1	33.6	1	26.9	1	56.7	25.6	5	97.6
Tenkow (B. P. I.)	646	1	13.8	1	0	1	33.8	1	33.8	1	51.0	26.2	5	100.0
Selection 6 (Ky. Expt. Sta.)	4678	1	13.8	1	0	1	23.7	1	34.4	1	51.0	24.6	5	93.9
Beardless 6 (hooded)	2746	1	9.8	1	0	1	24.2	1	35.5	1	66.5	28.0	5	107.0
Kentucky 36 (Ky. Expt. Sta.)	4677	1	20.0	1	0	1	25.9	1	21.8	1	36.7	18.8	5	72.0
Union Winter (Ky. Expt. Sta.)	583	1	17.5	1	0	1	25.9	1	28.7	1	60.7	27.1	5	103.4
Wisconsin Winter (B. P. I.)	2159	1	16.9	1	0	1	38.5	1	30.9	1	51.6	27.7	5	105.8
							34.7						3	111.9

<sup>1</sup> Crop for 1928 was destroyed by freezing.<sup>2</sup> B.P.I.—Bureau of Plant Industry.<sup>3</sup> Standard variety with which others are compared.

## CALIFORNIA

## UNIVERSITY FARM, DAVIS

B. A. MADSON, *head, Agronomy Division, College of Agriculture*

The results at Davis for the years 1927-31 are not fully in accord with the long-time trends. Club Mariout, for instance, is a much better variety than shown by the data in table 3. On the other hand, Vaughn (C.I. 1367) has been a leading variety since its introduction,

<sup>1</sup> Accession number of Division of Cereal Crops and Diseases, formerly Office of Cereal Investigations.

and it has been well to the front during the period stated. Sacramento and Atlas ranked next to Vaughn.

Due to the fact that Vaughn is difficult to thresh without fraying, Atlas is recommended for the production of malting barley. Where the seeding cannot be done until late, Club Mariout is suggested. The best time to seed is from late October until mid-January. Some seeding is done as late as March. Where a drill is used, 70 to 90 pounds per acre is sufficient. Where the grain is broadcast, the rate is increased 25 percent.

TABLE 3.—*Acre yields of varieties of barley grown at University Farm, Davis, Calif. in 1 or more of the years 1927-31*

[Data obtained in cooperation with the California Agricultural Experiment Station]

Variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Bu.		Bu.		Bu.		Bu.		Bu.		Bu.	Years
Vaughn 1	1367	5	86.2	5	81.5	5	63.3	5	112.3	5	54.4	79.5	5	100.0
Atlas	4118		81.2	5	58.8	5	62.7	5	103.8	5	50.2	71.3	5	89.7
Coast	4633	5	68.1	4	62.7	5	52.7	5	84.6	5	41.6	61.9	5	77.9
Sacramento	4108	5	82.1	5	80.8	5	48.8	5	123.1	5	28.7	72.7	5	91.4
Hero (1286-1)	4602	5	68.8	5	52.9	5	22.7	3	101.0	5	51.8	59.4	5	74.7
Club Mariout	261	5	67.4	5	46.2	5	31.6	5	75.0	5	39.1	51.9	5	65.2
Coast	690	5	67.2	5	63.1	5	52.1	5	90.6	5	43.8	63.4	5	79.7
Archer	1031	2	66.7	5	66.8	5	46.2	5	94.4				3	80.7
Mechanical Mixture	4115	2	67.3	2	51.6									
Composite Cross	4116	2	61.8	2	53.7	2	53.7	2	83.9					
Vaughn (1367-2)	5948			2	74.0	5	59.8	5	115.0				2	99.5
Vaughn (1367-1)	5947			2	67.5	5	66.5	5	113.3				2	102.4
Coast (268B)	4119			2	60.7									
Blanco (Tennessee Winter X Hero 30-3)	5045			5	73.7	5	41.0	5	96.7	5	46.8		4	82.9
Paso (Sacramento X Hero 27-1-563)	5047			2	73.8	5	50.4	5	113.1	5	32.0		3	85.0
Oso (Sacramento X California Mariout M21B2-7M)	5046			2	76.1	2	57.3	2	120.9					
Tennessee Winter	257			2	32.8	2	37.5	2	60.4					
Chevalier	278			2		2	46.9	2	84.4					
California Mariout	1455							2	104.2					

<sup>1</sup> Standard variety with which others are compared.

<sup>2</sup> Grown only in duplicate, not comparable, so not included in average.

#### COLORADO

AGRICULTURAL EXPERIMENT STATION, FORT COLLINS

ALVIN KEZER, *agronomist*, and D. W. ROBERTSON, *associate agronomist*

Although the tests at Fort Collins and Fort Lewis were made in nursery plots of 10 series of 3-row blocks, the center rows in each series being harvested, the results clearly show the superiority of Trebi in the production of grain. Hannchen is the only variety grown for the entire period that approached Trebi in yield, and at Fort Collins its 5-year average was more than 7 bushels less than that of Trebi. Trebi is, therefore, recommended for growing under irrigation. When used

as a nurse crop, however, Colseess is recommended. Colseess is stiff-strawed and much less likely to lodge and smother the alfalfa and clover. Under irrigation, 90 pounds per acre is a good seeding rate. The date of seeding varies from the first 20 days of April around Fort Collins to the last week in April around Fort Lewis.

Dry-land experiments have been carried on at Akron. As at all places of limited rainfall, the rank of varieties arranged as to yield varies much from year to year. Over a period of years, however, Blackhull, White Smyrna (Vance, C.I. 4585), Coast (C.I. 690), and Club Mariout have maintained a high average position. Several of the smooth-awned types have done well since their introduction, and it will be noted in table 4 that Flynn is almost the equal of Club Mariout in yield. Club Mariout and Flynn are recommended to farmers. Vance (White Smyrna) should have a place where combines are used. The seeding should be done in late March or early April at the rate of 4 pecks per acre.

TABLE 4.—*Acre yields of varieties of barley grown at the Colorado Agricultural Experiment Station, Fort Collins, at the Fort Lewis Farm, and at the United States Dry Land Field Station, Akron, Colo., in 1 or more of the years 1927-31*

[Data for Fort Collins and Fort Lewis obtained through the courtesy of the Colorado Agricultural Experiment Station and for Akron in cooperation with the Colorado Agricultural Experiment Station and the Division of Dry Land Agriculture]

Station and variety	C.I. no.	Station no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Fort Collins:				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Hanna	2784		10	69.1	10	60.9	10	80.6	10	87.7	10	54.8	70.6	5	83.3
Coast	2785		10	64.2	10	85.7	10	57.6						3	83.9
Gold	1145		10	58.2	10	37.6								2	56.9
Colseess	2792		10	73.3	10	90.5	10	64.2	10	90.1	10	51.7	74.0	5	87.3
Hanna	2788		10	70.6										1	81.3
Charlottetown 80	2732		10	63.9	10	46.1								2	65.3
Silver King	890		10	71.8	10	73.0								2	86.0
Telli	194		10	76.4	10	77.1								2	91.2
Nepal	595		10	51.3	10	50.0	10	55.5	10	63.8	10	45.8	53.3	5	62.9
Coast	2791		10	71.5	10	82.2	10	65.1	10	88.8	10	42.4	70.0	5	82.6
O. A. C. 21	1470		10	81.6	10	75.9	10	60.4						3	88.1
Manchuria	2783		10	79.2	10	65.6	10	66.2						3	85.3
Moister	2799	2286	10	72.3	10	82.6	10	66.4						3	89.5
Elfrý	2800	2287	10	78.8	10	83.3	10	66.7	10	96.8	10	62.9	77.7	5	91.7
Canadian Thorpe	740		10	84.3	10	77.2	10	69.5	10	78.1				4	89.0
Swansota	1907		10	74.3	10	66.9	10	56.4						3	79.9
Lion	923		10	72.4	10	75.0	10	77.7						3	91.0
Hannchen	531		10	72.5	10	74.5	10	85.3	10	92.6	10	65.8	78.1	5	92.2
Trebi	936	307	10	86.8	10	81.6	10	79.0	10	100.0	10	76.4	84.8	5	100.0
Club Mariout	261	335	10	76.7	10	96.6	10	59.1						3	93.9
Smyrna	2642		10	65.1	10	65.8								2	77.7
Himalaya	620		10	66.5	10	64.0	10	47.2	10	65.9	10	43.2	57.4	5	67.7
Velvet	4252		10	78.3	10	71.4	10	71.3	10	84.3	10	58.3	72.7	5	85.8
Black Six-Row	4691	319	10	61.4										1	70.7
Comfort	4578	336	10	77.7	10	70.0	10	78.2	10	84.1	10	57.4	73.5	5	86.7
Faust	4579	1084	10	69.1	10	63.6	10	51.2	10	70.3	10	48.1	60.5	5	71.3
Glabron	4577		10	72.3	10	72.3	10	74.8	10	83.6	10	61.0		4	86.6
Spartan	5027	1085	10	88.8	10	66.8	10	66.8	10	82.4	10	59.4		4	88.2
Hanna	2787		10	65.0										1	79.7
Atlas	4118	1094	10	72.1	10	72.1	10	107.5	10	60.2				3	93.9

<sup>1</sup> Standard variety with which others are compared.



TABLE 4.—Acre yields of varieties of barley grown at the Colorado Agricultural Experiment Station, Fort Collins, at the Fort Lewis Farm, and at the United States Dry Land Field Station, Akron, Colo., in 1 or more of the years 1927-31—Continued

Station and variety	C.I. no.	Station no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Fort Collins—Contd.				Bu.		Bu.		Bu.		Bu.		Bu.			Pct.
Dryland (smooth awn)	5673	1065					10	65.0	10	94.4	10	60.6		3	86.1
Hero	1286						10	67.4	10	90.6	10	45.8		3	79.8
Pearl	5678	1111					10	70.3	10	94.0	10	57.7		3	86.9
Arequipa	1256						10	67.4	10	86.3	10	42.3		3	76.7
Ezond	5064	1112							10	102.3	10	74.3		2	100.1
Victory	5077	1101							10	104.5	10	63.3		2	95.1
Fort Lewis:															
Coast	2791		10	92.4	10	53.3	(2)		10	64.9	10	84.8	73.9	4	85.2
Colless	2792		10	83.7	10	52.7	(2)		10	73.2	10	67.9	69.4	4	80.0
Chevalier II	200		10	74.1	10	61.3	(2)		10	72.7	10	85.5	73.4	4	84.7
Moister	2799	2286	10	66.7	10	42.3	(2)							2	66.7
Gold	1145		10	52.3			(2)							1	50.6
O. A. C. 21	1470		10	72.5			(2)							1	70.2
Success	507		10	67.2			(2)							1	65.1
Nepal	595		10	76.1	10	43.8	(2)		10	48.7	10	57.3	56.5	4	65.1
Trebi <sup>1</sup>	936	307	10	103.3	10	60.0	(2)		10	94.8	10	88.7	86.7	4	100.0
Velvet	4252		10	85.2	10	49.0	(2)		10	80.8	10	76.9	73.0	4	84.2
Comfort	4578	336			10	45.0	(2)		10	64.2	10	68.5		3	73.0
Faust	4579	1084			10	53.9	(2)		10	49.9	10	61.4		3	67.8
Glaboron	4577				10	45.2	(2)		10	63.3	10	69.7		3	73.2
Spartan	5027	1085			10	50.5	(2)		10	55.7	10	72.5		3	73.4
Himalaya	620				10	26.1	(2)		10	27.1				2	34.4
Elfrý	2800	2287			10	43.6	(2)							1	72.7
Arequipa	1256						(2)		10	71.3	10	92.0		2	89.0
Akron:															
Blackhull <sup>1</sup>	878		4	28.8	4	40.7	4	12.1	4	18.6	4	7.3	21.5	5	100.0
Smyrna	2642		4	27.3	4	41.9	4	11.4	4	13.2				4	98.6
Club Marout	261	335	4	33.0	4	48.2	4	15.8	4	21.8	4	9.2	25.6	5	119.1
California Marout	1455	314	4	16.4	4	30.8								2	67.9
Flynn	1311		4	31.5	4	44.2	4	17.7	4	16.9	4	11.4	24.3	5	113.2
White Smyrna	4587	02WS	4	23.5										1	81.6
Vance (White Smyrna)	4585	05WS	4	35.2	4	49.2	4	13.7	4	18.2	4	9.1	25.1	5	116.7
White Smyrna	4584	09WS	4	34.4	4	45.5	4	12.4	4	16.4				4	108.5
Do	4586	013WS	4	31.6										1	109.7
Coast	690		4	31.4	4	48.1	4	9.4	4	14.9	4	11.0	23.0	5	106.8
Moister	2799	2286	4	29.0	4	49.1	4	12.3	4	19.7	4	10.7	24.2	5	112.4
Elfrý	2800	2287	4	31.9	4	46.4	4	13.2	4	18.2				4	109.5
Colless	2792		4	26.5	4	38.1	4	10.8	4	10.7				4	85.9
Trebi	936	307	4	21.9	4	36.8	4	8.6	4	10.6	4	5.2	16.6	5	77.3
Arequipa	1256		4	35.4	4	44.4	4	15.3	4	15.8	4	9.6	24.1	5	112.1
Himalaya	620		2	28.9	4	34.2	4	8.1	4	14.6	4	2.8	17.7	5	82.4
Faust	4579	1084	2	16.8	4	33.2	4	6.5	4	10.6	4	2.9	14.0	5	65.1
Glaboron	4577				4	44.1	4	6.4	4	13.8	4	3.0		4	85.5
Comfort	4578	336			4	47.8	4	13.0	4	15.9	4	8.1		4	107.8
Malt (local)	5677						4	11.3	4	14.2	4	9.3		3	91.6
Pearl (local)	5678								2	16.4	4	7.2		2	91.1
Blackhull selection	5679	1178									4	13.3		1	182.1
Pryor	2359										4	10.0		1	137.0
Vaughn	1367										4	12.3		1	168.5
Horn	926										4	4.9		1	67.1

<sup>1</sup> Standard variety with which others are compared.

<sup>2</sup> No yields reported for 1929 at Fort Lewis, as hail destroyed the crop.

<sup>3</sup> Yields for 1928 at Akron were corrected to take care of fractional plots. This was necessary because of faulty seeding of the drill.

## GEORGIA

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The yields from Georgia reported in table 5 are from plot tests at Athens and Tifton and from nursery tests at Experiment. Zero yields were due to winter-killing.

TABLE 5.—*Acre yields of varieties of barley grown at the Georgia State College of Agriculture, Athens; at the Georgia Coastal Plain Experiment Station, Tifton; and at the Georgia Experiment Station, Experiment, Ga., in 1 or more of the years 1927-31*

Data for Athens obtained in cooperation with the Georgia State College of Agriculture; data for Tifton obtained through the courtesy of the Georgia Coastal Plain Experiment Station; and data for Experiment obtained through the courtesy of the Georgia Experiment Station]

Station and variety	C.I. no.	Georgia no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Athens:				Bu.		Bu.		Bu.		Bu.		Bu.			Pct.
Greece 1	4593		2	28.1	2	33.8	2	77.3	2	60.6	2	60.1	52.0	5	100.0
Argentina	4594		2	27.4	2	33.6	2	75.2	2	52.1	2	56.0	48.9	5	94.0
Tennessee Winter	257		2	29.0	2	33.2	2	55.5	2	54.1	2	57.4	45.8	5	88.2
Mammoth	4683		2	28.5	2	34.4	2	59.8	2	50.4	2	55.8	45.8	5	88.1
Tennessee Winter Section 66	3546		2	21.1	2	25.2	2	55.0	2	49.4	2	53.0	40.7	5	78.4
Orel	4592		2	22.1	2	22.9	2	58.8	2	53.1	2	43.7	40.1	5	77.2
Nakano Wase	2164		2	26.0	2	25.9	2	49.0	2	56.9	2	38.7	39.3	5	75.6
Beardless 5	3384		2	14.3	2	13.1	2	25.4	2	46.7	2	27.3	25.4	5	48.8
Beardless 6	2746		2	17.5	2	20.2	2	27.6						3	46.9
Hannchen	531		2	25.4	2	5.9								2	50.6
South Carolina Awnless	5922								2	35.5	2	44.6		2	66.4
Tifton:															
Greece	4593				2	12.1	2	8.8	2	20.8	2	21.4	15.8	4	79.0
Tennessee Winter Section 66 1	3546				2	8.7	2	15.4	2	20.3	2	35.5	20.0	4	100.0
Argentina	4594				2	10.8	2	8.6	2	16.9	2	19.0	13.8	4	69.2
Mammoth	4683				2	10.4	2	7.6	2	14.1	2	12.9	11.3	4	56.3
Tennessee Winter	257				2	8.4	2	11.8	2	12.0	2	16.7	12.2	4	61.2
Orel	4592				2	4.6	2	6.3	2	8.4	2	12.8	8.0	4	40.2
Hannchen	531				2	2.8	2	4.0	2	8.1				3	33.6
Beardless 5	3384				2	3.1	2	7.0	2	7.8	2	19.0	9.2	4	36.2
Beardless 6	2746				2	3.2	2	6.5	2	5.4				3	34.0
Nakano Wase	2164				2	10.2	2	6.0			2	32.3		3	81.4
South Carolina Awnless	5922										2	25.7		1	72.4
Experiment: 1															
Chevalier	274			48.6		0		35.0						3	80.5
Nakano Wase	170			43.7		(3)		53.4		0		35.6		4	90.5
Greece	168			41.3		29.1		56.7		33.1		47.8	41.6	5	124.5
Tennessee Winter	169			37.0		19.3		56.8		31.9				4	110.3
Oderbrucker	275			36.7		0		33.1						3	67.2
Wisconsin Winter 1	172			29.5		20.5		53.9		27.6		35.6	33.4	5	100.0
Texas Winter	171			24.2		16.8		58.4		28.2		34.1	32.3	5	98.8
Tennessee Winter Hooded	184			40.2		30.8		44.2		30.1		48.9	38.8	5	116.2

<sup>1</sup> Standard variety with which others are compared.

<sup>2</sup> The tests from Experiment are nursery tests. The varieties were grown in 4 series of 3 rod rows each.

<sup>3</sup> Destroyed by birds.

<sup>4</sup> Some grain lost in threshing, so not included in average.

The most promising variety tested in Georgia appears to be Greece (C.I. 4593). This is indicated not only in table 5, where it is shown to have given the highest yields at Athens and Experiment and good yields at Tifton, but also in summaries of previous years where this variety has shown to advantage. Tennessee Winter Selection 66 (C.I. 3546) produced the highest average yield at Tifton. At this place 2 out of the 4 years were good barley years, this being a greater percentage than average. Hooded winter varieties have produced satisfactory yields only at Experiment.

Barley seeding should be completed by early October in the north-western part of the State and by October 25 elsewhere. The rate of 6 to 8 pecks of seed per acre is a satisfactory one.

#### IDAHO

UNIVERSITY OF IDAHO, MOSCOW

H. W. HULBERT, *head, Department of Agronomy*

Four distinct sets of conditions are represented in the localities from which yields are reported in table 6.

The southern Idaho irrigated area is represented by Aberdeen. Here Trebi is the outstanding variety, as it has been for many years. Moscow represents the Palouse section of Idaho. In this 5-year period, as in the previous one, Trebi is the highest-yielding variety of the spring-sown group. Winter Club produced the highest yield among the winter varieties. Felt is on the high bench lands of northeastern Idaho. During this 5-year period Meloy has exceeded Trebi in yield. In the previous 5 years the reverse was true. The 10-year average is somewhat in favor of Trebi, but the differences are such as to make little choice between them. Sandpoint is in the wooded northern section of the State. The Sandpoint results are not in close accord with those previously reported. Of the varieties grown in all 5 years, Han River and Horsford produced the highest yields. Hannchen (C.I. 531), grown for only 3 years, was very promising.

In the irrigated sections a seeding rate of 100 pounds of barley per acre is recommended. In the nonirrigated sections 6 pecks, decreasing to 4 or 5 pecks in the drier portions, is a sufficient quantity. Trebi barley is recommended for growing throughout Idaho. Charlotte-town 80 is being distributed in cut-over areas, and it is believed that Hannchen would also be satisfactory in these areas.

TABLE 6.—*Acre yields of varieties of barley grown at the Idaho Agricultural Experiment Station, Moscow, and at the substations at Aberdeen, Felt, and Sandpoint, Idaho, in 1 or more of the years 1927-31*

[Data for Moscow, Felt, and Sandpoint obtained through the courtesy of the Idaho Agricultural Experiment Station; data for Aberdeen obtained in cooperation with the Idaho Agricultural Experiment Station]

Station and variety	Number of plots and acre yield													Number of years grown and yield in comparison with standard variety for comparable years	
	C.I. no.	Idaho no.	1927		1928		1929		1930		1931		Average yield, 1927-31		
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Moscow:															
Spring-sown:															
Trebi <sup>1</sup>	936	2073	2	Bu. 52.0	2	Bu. 82.1	5	Bu. 36.7	5	Bu. 52.2	3	Bu. 78.5	Bu. 60.3	5	Pct. 100.0
Peruvian	935	2075	2	50.5	2	71.4	5	31.8	5	54.0	3	62.8	54.1	5	89.7
Han River	206	2072	2	46.7	2	71.0	5	38.8	5	48.3	3	67.3	54.4	5	90.2
White Smyrna	910	2074	2	45.5	2	67.7	5	53.9	5	68.0	3	60.9	59.2	5	98.1
Winter Club	488	2001	2	45.1	2	69.9	5	25.6	5	30.7	3	58.1	45.9	5	76.1
Baker	975	2076	2	44.3					5	45.0	3	63.1		3	83.4
Colless	2792	2088	2	38.0	2	57.5	5	24.6	5	47.6	3	56.6	44.9	5	74.4
Faust	4579	2105	2	33.0	2	36.5	5	35.0	5	41.5	3	45.1	38.2	5	63.4
Ezond	5064	2112					5	39.0	5	51.2	3	74.8		3	98.6
Ace	1853	2109					5	41.0	5	51.7	3	68.9		3	96.5
Ottawa No. 7	5977	2107					5	45.1	5	44.9	3	61.6		3	90.6
Spartan	5027	2106					5	36.6	5	53.3	3	58.9		3	88.8
Union Beardless	5976	2108					5	33.2	5	52.2	3	48.5		3	79.9
Glabron	4577	2110					5	22.6	5	46.6	3	56.0		3	74.7
Velvet	4252	2111					5	24.7	5	36.7	3	47.1		3	64.8
Hannchen (229)	4841	2113							5	44.4	3	61.9		2	81.3
Baker	975	2114									3	65.7		1	83.6
Charlottetown 80	2732	2118									3	51.2		1	65.2
Fall-sown:															
Winter Club	488	2001	2	131.8	2	62.8	2	43.2	2	71.4	3	78.4	77.5	5	100.0
Do	519	2039	2	69.0	2	62.2	2	34.9	2	62.3				4	73.9
Tennessee Winter	257	2040	2	94.8	2	70.8	2	33.1	2	60.6				4	83.9
Michigan Winter	2036	2041	2	91.0	2	68.7	2	41.4	2	61.8				4	85.0
Sandpoint	5019	549									3	84.0		1	107.1
Aberdeen:															
Trebi <sup>1</sup>	936		1	95.4	2	80.0	2	93.4	3	130.3	3	85.2	96.9	5	100.0
Beldi Giant	2777		1	90.0	2	87.9	2	75.3	3	121.4	3	64.0	87.7	5	90.6
Hannchen	531		1	73.3	2	93.4	2	84.0	3	103.6	3	67.9	84.4	5	87.2
Bohemian	27		1	70.8										1	74.2
White Smyrna	910		1	84.2	2	87.5	2	82.1	3	117.9	3	83.2	91.0	5	93.9
Do	4580		1	81.3	2	92.5	2	80.4	3	117.3	3	77.1	89.7	5	92.6
Meloy	1176		1	65.4	2	84.6	2	79.8	3	93.6	3	59.8	76.6	5	79.1
Alpha	959		1	74.2	2	73.4	2	69.0						3	80.6
Flynn	1311		1	91.7	2	82.9	2	81.3	3	121.4	2	78.5	91.2	5	94.1
Orel	351		1	76.7	2	64.6	2	66.5						3	77.3
Horn	926		1	85.0	2	71.3	2	81.9	3	101.4	3	67.9	81.5	5	84.1
Faust	4579		1	47.9	2	66.7	2	66.9	3	76.9	3	41.6		4	64.8
Mechanical Mixture	4115		1	85.2	1	78.3		83.2	1	102.5				3	86.9
Composite Cross	4116		1	83.2	1	70.0		77.4	1	97.5				3	80.6
Bonami	4664		1	60.7	1	85.8								1	107.2
Ezond	5034				2	86.7	2	93.1	3	124.6	3	79.3		4	98.7
Arequipa	1256				1	115.0	2	80.4	3	113.1	3	72.9		4	98.1
Felt:															
Trebi <sup>1</sup>	936		1	15.8	2	55.8	2	25.0	2	20.8	2	14.5	26.4	5	100.0
Baker	975		2	14.1	2	55.8	2	25.0	2	24.1	2	10.0	25.8	5	97.8
Beldi Giant	2777		2	15.0	2	51.2	2	21.6	2	23.3	2	13.7	25.0	5	94.6
Han River	206		2	11.6	2	49.5	2	20.4	2	15.4	2	10.8	21.5	5	81.7
Meloy	1176		2	18.3	2	55.8	2	29.5	2	23.7	2	19.1	29.3	5	111.0
White Smyrna	910		2	10.0	2	43.7	2	20.8	2	21.2	2	13.7	21.9	5	82.9
Faust	4579		2	8.0	2	35.3	2	18.0	2	13.3	2	6.3	16.2	5	61.3
Nepal (White Hull-less)	595		2	7.7	2	29.0	2	16.0	2	14.0	2	5.0	14.3	5	54.4

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> Half of the 1/40-acre plot was damaged by sheep, and therefore yield is not included in average.<sup>3</sup> These yields are not included in averages as they are from tests on 1/94-acre instead of 1/40-acre plots.

TABLE 6.—*Acre yields of varieties of barley grown at the Idaho Agricultural Experiment Station, Moscow, and at the substations at Aberdeen, Felt, and Sandpoint, Idaho, in 1 or more of the years 1927-31—Continued*

Station and variety	C.I. no.	Idaho no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Years	Yield											
Sandpoint:				Bu.		Bu.		Bu.		Bu.		Bu.		Pct.	
Trebi <sup>1</sup> .....	936		2	15.9	2	22.2	2	19.6	2	24.6	2	30.1	22.5	5	100.0
Han River.....	206		2	22.6	2	29.6	2	20.7	2	23.7	2	28.8	25.1	5	111.6
Horsford.....	4665		2	19.0	2	20.5	2	20.3	2	26.8	2	37.0	24.7	5	110.0
Winter Club.....	488		2	15.1	2	26.1	2	15.0	2	25.0	2	33.6	23.0	5	102.1
Colsess.....	2792		2	22.7	2	12.9	2	20.1	2	29.0	2	30.0	22.9	5	102.0
Nepal.....	595		2	11.2	2	16.2	2	17.6	2	24.1	2	30.5	19.9	5	88.6
Faust.....	4579		2	10.6	2	22.5	2	12.8	2	21.5	2	29.7	19.4	5	86.4
Charlottetown 80.....	2732		2	19.3	2	30.6	2	21.9	2	22.8	2	25.8	24.1	5	107.1
Hannchen.....	531						2	26.1	2	26.7	2	34.4		3	117.4
Beldi Giant.....	2777						2	20.3	2	23.8	2	38.3		3	110.9
Flynn.....	1311						2	19.0	2	18.9				2	85.7
Ezond.....	5064						2	17.4	2	26.0	2	42.4		3	115.5

<sup>1</sup> Standard variety with which others are compared.

#### ILLINOIS

#### AGRICULTURAL EXPERIMENT STATION, URBANA

W. L. BURLISON, head, Department of Agronomy, and G. H. DUNGAN, associate professor, Crop Production

Varietal tests of barley are again reported from Urbana and De Kalb. Varieties originating in Wisconsin appear to be well adapted to Illinois. Varieties of the Oderbrucker type produced the highest average yield in the years 1922-26. At present the Illinois Station is recommending Wisconsin Pedigree 37 and Wisconsin Pedigree 38 for general cultivation. As may be seen in table 7, these varieties have produced high yields since they have been included in the tests. Spartan and Lion are recommended where stiffness of straw is essential.

Barley is usually seeded at the rate of 8 pecks per acre in Illinois. Early seeding is very important on the southern edge of the barley belt. Around Urbana barley should be in the ground in late February or early March. The latter half of March is the best time to seed in sections represented by De Kalb.

TABLE 7.—*Acre yields of varieties of barley grown at the Illinois Agricultural Experiment Station, Urbana, and at the Crop Experiment Field, De Kalb, Ill., in 1 or more years 1927-31*

[Data obtained through the courtesy of the Illinois Agricultural Experiment Station]

Station and variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Years	Yield	
Urbana:			Bu.		Bu.		Bu.		Bu.		Bu.		Pct.	
Lion 1.....	923	2	49.4	2	40.3	2	41.6	2	50.7	2	63.4	49.1	5	100.0
Silver King.....	890	2	49.8	2	45.6	2	30.7	2	45.2				4	94.1
Velvet.....	4252	2	49.1	2	42.6	2	33.5	2	42.6	2	56.3	44.8	5	91.3
Wisconsin Pedigree 5.....	1272	2	51.1	2	42.9	2	31.2	2	46.3	2	49.3	44.2	5	90.0
Wisconsin Pedigree 37.....	5028			2	49.1	2	48.8	2	53.2	2	62.9		4	109.2
Spartan.....	5027			2	46.9	2	41.5	2	51.0	2	68.3		4	106.0
Glabron.....	4577					2	37.4		49.9	2	53.5		3	90.4
Wisconsin Pedigree 38.....	5105							2	50.8	2	66.8		2	103.1
Trebi.....	936									2	72.4		1	114.2
De Kalb:														
Lion 1.....	923	2	44.9	2	31.6	2	47.8	2	56.5	2	45.9	45.3	5	100.0
Velvet.....	4252	2	33.9	2	47.8	2	50.5	2	47.4	2	42.8	44.5	5	98.1
Silver King.....	890	2	29.0	2	49.3	2	52.2	2	47.5				4	98.5
Wisconsin Pedigree 5.....	1272	2	26.9	2	47.3	2	41.9	2	48.2	2	36.5	40.2	5	88.6
Wisconsin Pedigree 37.....	5028					2	60.6	2	55.5	2	42.2		3	105.4
Spartan.....	5027					2	48.7	2	49.5	2	47.7		3	97.1
Glabron.....	4577					2	47.9	2	52.3	2	45.6		3	97.1
Wisconsin Pedigree 38.....	5105							2	55.7	2	52.8		2	106.0
Trebi.....	936									2	44.3		1	96.5

<sup>1</sup> Standard variety with which others are compared.

## INDIANA

## AGRICULTURAL EXPERIMENT STATION, PURDUE UNIVERSITY, LA FAYETTE

R. R. MULVEY, *associate in crops, Department of Agronomy*

The climate of Indiana, as a whole, is not favorable to the profitable production of barley as compared with other small-grain crops. A limited number of both spring- and winter-barley varieties are maintained in comparative tests at La Fayette (table 8).

Over a period of years at La Fayette winter barley and the better adapted varieties of spring barley are practically equal in yielding ability. The same yield in bushels per acre is to be expected from winter wheat. Spring oats rank above either spring or winter barley, both as a feed and as a cash crop.

In the northern two tiers of counties and in the northeast section spring barley is profitably grown, as compared with oats, on the fertile loam soils. Acid soils and light sandy soils in this section are less adapted to the profitable production of this crop than oats.

The six-rowed Manchuria type has been chiefly grown by Indiana farmers in the past. This type is being rapidly replaced by the smooth-awned varieties which appear to be as well adapted and less objectionable to handle. The principal smooth-awned varieties being seeded are Wisconsin Pedigree 38, Velvet, and Spartan.

TABLE 8.—*Acre yields of varieties of barley grown at the Purdue University Agricultural Experiment Station, La Fayette, Ind., in 1 or more of the years 1927-31*<sup>1</sup>

Variety	Number of plots and acre yield											Number of years grown and yield in comparison with standard variety for comparable years		
	C. I. no.	1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Winter barley:			<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Pct.</i>	
Tennessee Winter <sup>1</sup> .....	257	2	53.9	2	15.1	2	28.5	2	26.5	2	56.2	36.0	5	100.0
Purdue 21.....	4581	2	52.0	2	21.5	2	26.7	2	31.6	2	54.8	37.3	5	103.6
Purdue 1101.....	4582	4	51.0	4	23.5	4	25.8	4	28.1	4	57.2	37.1	5	103.0
Tennessee Beardless.....				2	5.1	1	22.5	2	15.8	2	36.1		4	62.9
Spring barley:														
Manchuria <sup>2</sup> .....	2330	2	32.9	2	36.1	2	32.7	2	29.8	2	26.3	31.6	5	100.0
Lion.....	923	2	29.1	2	29.8	2	29.5	2	24.6	2	30.4	28.7	5	90.9
Success Beardless.....	1808	8	23.6	8	24.2	8	27.3	10	27.8	10	21.5	24.9	5	78.8
Colless.....	2792	2	26.0	2	27.5	2	26.9	2	26.5	2	25.8	26.5	5	84.1
Alpha.....	959	1	29.5	2	38.2	2	41.3	2	32.3	2	34.6	35.2	5	111.5
Trebi.....	936	1	36.0	2	35.2	2	38.7	2	33.3	2	29.8	34.6	5	109.6
Minsturdy.....	1556	1	31.9	2	32.5	2	30.9	2	28.4	2	30.5	30.8	5	97.7
Comfort.....	4578	1	35.3	2	27.4	2	34.2	2	33.3	2	30.6	32.2	5	101.9
Velvet.....	4252	1	28.1	2	30.7	2	31.4	2	31.1	2	31.6	30.5	5	97.1
Glabron.....	4577	1	26.1	2	33.0	2	29.3	2	34.1	2	30.8	30.7	5	97.1
Spartan.....	5027					2	37.4	2	26.4	2	28.2		3	103.6
Wisconsin Pedigree 38.....	5105							2	32.8	2	30.8		2	113.4
Wisconsin Pedigree 37.....	5028									2	30.7		1	116.7

<sup>1</sup> Testing conditions for 1927 were not fully satisfactory.<sup>2</sup> Standard variety with which others are compared.

From the more recent tests at La Fayette, Alpha appears to be much better adapted than Manchuria. Besides having higher yielding ability, it grows taller and the grain is of a higher test weight. Trebi ranks second to Alpha in all of these respects except in length of straw. Wisconsin Pedigree 37 is promising among the smooth-awned types. Should these varieties continue to outyield the varieties now being grown, the area of profitable barley production will be somewhat expanded in this State.

Recommendations as to varieties can be made with greater assurance after further testing. Spring barley should be seeded as early as possible, at the rate of 2½ bushels per acre. The time varies for the different sections of the State. September is the most favored time for fall seeding.

## IOWA

## AGRICULTURAL EXPERIMENT STATION, AMES

L. C. BURNETT, *Farm Crops and Soils Section*

The annual yields from the various trials in Iowa are reported in table 9. It is clear from all experiments that Trebi is a high-yielding variety. Spartan has made a good showing among the newer varieties. Several smooth-awned six-rowed sorts have produced higher yields than Manchuria. Velvet is suggested for either feed or market, if a smooth-awned variety is desired. Most barley varieties respond favorably to early sowing. The losses, however, are relatively small until the sowing has been delayed beyond the

middle of April. After this date the losses increase rapidly the longer sowing is delayed. Two bushels per acre is a satisfactory rate of seeding.

TABLE 9.—*Acre yields of varieties of barley grown at the Iowa Agricultural Experiment Station, Ames, and at the experiment fields at Mason City and Kanawha, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Iowa Agricultural Experiment Station. The results reported are from nursery tests. The actual number of rows grown, rather than the number of replications, is given]

Station and variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
												Years	Yield	
Ames:			<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Pct.</i>	
Trebi <sup>1</sup> .....	936		3	54.5	9	50.9	12	64.7	12	39.4	52.4	4	100.0	
Glabron.....	4577		3	35.0	9	42.2	12	46.1	12	51.8	43.8	4	83.6	
Minsturdi.....	1556		3	46.8	9	38.7	12	54.6	12	40.6	45.2	4	86.3	
Velvet.....	4252		3	57.2	9	33.0	12	52.0	12	45.7	47.0	4	89.7	
Wisconsin Pedigree 37.....	5028		3	47.4	9	34.2	12	56.2	12	41.9	44.9	4	85.8	
Colless.....	2792		3	45.5	9	36.5	12	41.0	12	41.3	41.0	4	78.4	
Manchuria.....	241		3	54.2	9	33.7	12	40.7	12	31.0	39.9	4	76.2	
O. A. C. 21.....	1470		3	50.7	9	32.7	12	36.7	12	30.4	37.6	4	71.8	
Spartan.....	5027				9	33.2	12	63.2	12	46.6		3	92.3	
Mason City:														
Trebi <sup>1</sup> .....	936		3	75.0	6	45.2	8	56.9				3	100.0	
Glabron.....	4577		3	57.8	6	30.4	8	44.3				3	74.8	
Minsturdi.....	1556		3	51.3	6	35.2	8	47.8				3	75.8	
Velvet.....	4252		3	68.5	6	27.5	8	41.1				3	77.4	
Wisconsin Pedigree 37.....	5028		3	57.7	6	37.9	8	54.2				3	84.6	
Colless.....	2792		3	53.9	6	37.6	8	41.5				3	75.1	
Manchuria.....	241		3	51.7	6	27.8	8	42.0				3	68.6	
O. A. C. 21.....	1470		3	53.4	6	25.9	8	46.5				3	71.0	
Spartan.....	5027				6	25.8	8	55.7				2	79.8	
Kanawha:														
Trebi <sup>1</sup> .....	936								8	38.8				
Glabron.....	4577								8	38.7				
Minsturdi.....	1556								8	28.4				
Velvet.....	4252								8	38.9				
Wisconsin Pedigree 37.....	5028								8	33.7				
Colless.....	2792								8	26.2				
Manchuria.....	241								8	27.5				
O. A. C. 21.....	1470								8	25.4				
Spartan.....	5027								8	34.5				

<sup>1</sup> Standard variety with which others are compared.

#### KANSAS

KANSAS STATE COLLEGE OF AGRICULTURE, MANHATTAN

H. H. LAUDE, *professor of agronomy*

Several types of barley produce satisfactory yields in Kansas. Flynn, Vaughn, Stavropol, Blackhull, Trebi, and White Smyrna represent different types. As may be seen in table 10, Flynn does well in all five of the testing fields. Vaughn, another smooth-awned variety, has been tested for a shorter time. It is unquestionably promising. Stavropol is an old standard type that has made its way with farmers for many years. Blackhull has proved itself to be a good variety at Akron, Colo., and it apparently fits in well at Colby, Kans. There is



always some interest in the so-called "malt" varieties. These varieties yield fairly well, but they must be handled promptly to avoid loss from shattering. Three of these, Wingfield Malt, Local Malt, and Franklin Malt, at Colby, are nearly identical in appearance.

Extensive cooperative tests with a limited number of varieties have given results similar to the station tests.

It is recommended that barley be seeded during the last half of March at the rate of  $1\frac{1}{2}$  to  $1\frac{3}{4}$  bushels per acre.

TABLE 10.—*Acre yields of varieties of barley grown at the branch experiment stations at Hays, Colby, Garden City, and Tribune, Kans.; and at the Kansas Agricultural Experiment Station, Manhattan, in 1 or more of the years 1927-31*

[Data for Hays obtained in cooperation with the Kansas Agricultural Experiment Station; for Colby, through the courtesy of the station and the Division of Dry Land Agriculture; and for Garden City, Tribune, and Manhattan, through the courtesy of the station]

Station and variety	C. I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield
Hays:			Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Pct.	
Club Mariout 1	261	2	19.0	3	42.5	3	50.0	3	28.8	3	23.8	32.8	5	100.0
Flynn	1311	2	21.9	3	47.5	3	49.0	3	30.6	3	24.1	34.6	5	105.5
White Smyrna	195	2	18.5	3	53.1	3	52.1	3	35.0	3	26.9	37.1	5	113.1
Blackhull	878	2	22.1	3	34.9								2	92.7
Coast	690	2	15.4	3	40.8	3	34.9						3	81.7
Beldi Dwarf	190	2	7.6	3	49.4								2	92.7
Stavropol	2103	2	10.4	3	39.6	1	22.9						3	65.4
Gatami	575	2	9.9	3	30.9								2	66.3
Cape-Coast No. 11	4595	2	9.9	3	32.3								2	68.6
Meloy	1176	2	13.3	3	30.5								2	71.2
Himalaya	620	2	10.5	3	22.2								2	53.2
Hannchen	531	2	13.3	3	34.0								2	76.9
Odessa	182	2	14.6	3	41.8								2	91.7
Stavropol (Aberdeen)	2	2	19.6	3	42.1	1	37.5						3	89.0
Stavropol H.C. 249	5913	2	25.8	3	54.0	3	47.2	3	28.8	3	13.7	33.9	5	103.3
Ellis	2107			3	53.1	1	30.7	3	29.5	3	18.9		4	91.1
Colby Local Six-Rowed	5919			3	54.3	3	42.9	3	31.9	3	21.8		4	104.0
Huntington	4110			3	44.6	3	46.9	3	27.8	3	17.4		4	94.2
Francis	4109			3	42.8	3	46.2						2	96.2
Preston	1348			3	50.0	3	48.4	1	26.0	3	20.3		4	99.7
Vaughn	1367			3	50.0	3	49.6	3	29.2	3	24.1		4	105.4
Hero	1286			3	50.0								1	117.6
Pryor	2359			3	37.1	3	53.1	3	27.4	3	24.8		4	98.1
Franklin Malt	5915					3	42.9	3	29.8	3	13.4		3	83.9
Lion (Kansas Cooperative 1702)	923					3	38.3	3	28.8				2	85.2
Trebi	936							3	31.2	3	25.7		2	108.2
New Composite Cross	5461							1	26.5	1	22.4		2	93.0
Flynn Selection 13	5916							1	23.9	1	34.4		2	110.8
Flynn Selection 1	5911									3	25.8		1	108.4
Colby:														
Colby Local Six-Rowed	5919		16.9	2	41.1	2	32.2	3	51.7	3	17.0	31.8	5	112.5
White Smyrna	195		3.8	2	30.1	2	32.2	3	57.7				4	96.3
Blackhull	878		1.7	2	35.8	2	35.0	3	71.2				4	111.8
Stavropol	2103		3.0	2	42.7	2	36.3						3	117.5
Club Mariout 1	261		2.1	2	34.8	2	32.9	3	58.7	3	12.7	28.2	5	100.0
Flynn	1311		3.8	2	36.3	2	43.5	3	60.1	3	14.0	31.5	5	111.7
Local Malt	4643		5.9	2	34.9	2	33.8	3	59.4				4	104.3
Wingfield Malt	4644		6.7	2	44.9	2	32.5						3	120.5
Coast	690		9.4	2	44.2	2	43.7	3	42.7	3	10.8	30.2	5	106.8
Odessa	182		5.1	2	29.7	2	26.0	3	53.5				4	88.9
Trebi	936		10.6	2	40.6	2	25.5	3	53.8	3	16.3	29.4	5	104.0
Himalaya	620		11.1	2	44.1	2	27.4	3	63.2				4	113.5

1 Standard variety with which others are compared.

TABLE 10.—*Acre yields of varieties of barley grown at the branch experiment stations at Hays, Colby, Garden City, and Tribune, Kans.; and at the Kansas Agricultural Experiment Station, Manhattan, in 1 or more of the years 1927-31—Continued*

Station and variety	C. I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		
Colby—Continued.														
Hannchen	531			2	39.6	2	24.1	3	57.0				4	101.7
Huntington	4110		10.0	1	47.5	2	44.1	3	67.1	3	19.0		4	127.7
Francis	4109			1	43.8	2	36.8	3	65.8	3	19.6		4	119.3
Preston	1348			1	43.1	2	31.3	3	68.1	3	14.3		4	112.7
Vaughn	1367			1	46.7	2	29.7	3	64.1	3	11.8		4	109.5
Hero	1286			1	37.1	2	28.6	3	58.0				3	97.9
Stavropol H. C. 249	5913			1	51.5	2	37.5	3	61.8	3	19.8		4	122.6
Forsythe	2442			1	44.2	2	36.8						2	119.6
Lion	923					2	30.7	3	59.0				2	97.9
Franklin Malt	5915					2	26.3	3	55.2	3	16.2		3	93.7
Pryor	2359							3	60.1				1	102.4
Garden City:														
Ellis	2107	1	8.8		(?)	1	48.8	1	36.3		(?)		3	88.3
Coast	1430	1	15.0			1	53.8	1	20.0				3	83.5
Club Mariout <sup>1</sup>	261	1	17.5			1	48.8	1	40.0				3	100.0
Odessa	182	1	11.7										1	66.9
Flynn	1311					1	56.9	1	34.7				2	103.2
Stavropol H. C. 249	5913					1	47.5	1	17.5				2	73.2
Tribune:														
Ellis	2107	2	1.1	4	18.6			4	32.4	3	13.7	14.9	5	143.8
Club Mariout <sup>1</sup>	261	2	.9	4	12.8	4	14.9	4	26.5				5	100.0
Coast	690	2	1.2	4	19.8	4	20.3	4	22.3				4	111.1
Flynn	1311	2	.9	4	18.4	4	22.3	4	31.0	3	16.5	17.8	5	119.3
Local (Stavropol type)	4645	2	1.7	4	15.8	4	23.8	4	39.0				4	131.6
Stavropol H. C. 249	5913					4	20.4	4	35.4	3	13.7		3	113.9
Comfort	4578					4	17.2	4	21.7				2	82.2
Trebi	936					4	27.2	4	31.4	3	10.0		3	112.5
Vaughn	1367					4	19.1	4	29.4	3	12.8		3	100.5
Lion	923					4	26.4	4	32.4				2	124.3
Huntington	4110									3	15.0		1	109.5
Franklin Malt	5915									3	15.9		1	116.1
Manhattan:														
Coast	690	2	28.3	2	13.2	3	16.0	3	44.0				2	98.4
Flynn <sup>1</sup>	1311					3	9.9	3	51.1	3	35.7		3	100.0
Stavropol H. C. 249	5913					3	9.2	3	32.9	3	28.7		3	73.2
Comfort	4578					3	15.7	3	33.1				2	80.0
Velvet	4252					3	15.4	3	25.4				2	66.9
Vaughn	1367							3	49.0	3	36.1		2	98.0
Trebi	936									3	33.2		1	93.0

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> No yields are reported at Garden City in 1928, as the crop was destroyed by hail.<sup>3</sup> The yields for 1931 at Garden City were good, but inaccuracies in threshing made the data of no value.

## MICHIGAN

## AGRICULTURAL EXPERIMENT STATION, EAST LANSING

E. E. DOWN, *associate professor and research associate in farm crops*, and J. W. THAYER, Jr., *research assistant in farm crops*

Two-rowed varieties are relatively much better at East Lansing than at most stations. Alpha produced the highest yield of the varieties reported in table 11. Michigan Two-Row, one of the Hanna group, has always been a consistently high yielder and ranked second for the 4-year period. Spartan, a two-rowed, stiff-strawed, early maturing, smooth-awned barley, gave a lower yield than most of the

other varieties used in these trials. However, under field conditions its yields have been satisfactory, fields of Spartan having won each State barley-yield contest since 1929. Its uniformity and high test weight have brought it favor with pearlers and some maltsters, with the result that it commanded a substantial premium over six-rowed barley on the cash-crop market in Michigan in 1931. The station officials consider these advantages sufficient to justify its recommendation to Michigan growers. In Michigan, barley should be seeded as soon as the ground can be properly prepared in the spring. The usual rate of seeding is  $1\frac{1}{2}$  to 2 bushels per acre.

TABLE 11.—*Acre yields of varieties of barley grown at the Michigan Agricultural Experiment Station, East Lansing, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Michigan Agricultural Experiment Station]

Variety	C.I. no.	Michigan no.	Number of plots and acre yield <sup>1</sup>										Number of years grown and yield in comparison with standard variety for comparable years	
			1927		1928		1929		1930		Average yield, 1927-30			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield				
				Bu.		Bu.		Bu.		Bu.		Bu.	Years	Yield
Michigan Two-Row (Heil Hanna No. 1) <sup>2</sup> .....	2782	124	21	51.7	21	35.8	42	16.7	42	57.9	40.5	4	100.0	
Spartan.....	5027	68	5	44.0	5	30.4	10	13.8	10	41.1	32.3	4	79.8	
Velvet.....	4252	95	5	41.6	5	38.3	10	16.1	10	49.3	36.3	4	89.6	
Glabron.....	4577	99	5	52.1	5	37.4	10	17.9	10	52.0	39.9	4	98.3	
Minnesota 450.....	4646	100	5	46.1	5	36.9	10	17.8	10	41.1	35.5	4	87.5	
Oderbrucker (Wisconsin Pedigree 9).....	1275	101	5	40.6	5	35.4	10	19.7	10	45.8	35.4	4	87.3	
Lion (Michigan Black Barless).....	923	102	5	44.1	5	31.0	10	14.1	9	50.4	34.9	4	86.1	
Colless.....	2792	120	5	45.4	5	31.4	10	15.6	10	35.4	32.0	4	78.8	
Alpha.....	959	121	5	49.5	5	39.1	10	22.2	10	58.4	42.3	4	104.4	
Hull-less (Coeleste).....	4681	122	5	34.9	5	29.0	10	15.0	10	47.4	31.6	4	77.9	

<sup>1</sup> No yields were recorded for 1931, as the plots were destroyed by wind.

<sup>2</sup> Standard variety with which others are compared.

#### MINNESOTA

##### UNIVERSITY FARM, ST. PAUL

LEROY POWERS, assistant plant geneticist, Division of Agronomy and Plant Genetics

Yields from six testing fields are reported in table 12. These results do not differ greatly in their trend from those of the previous 5-year period. The smooth-awned hybrid varieties have continued to produce high yields and are now widely grown. Glabron and Velvet have been recommended to the farmers. Glabron is superior to Velvet in yield and in strength of straw. Smooth-Awn×Manchuria (Minn. No. 462; C.I. 5998), was clearly the best variety at Crookston and was very promising at the other stations. Wisconsin Pedigree 38 has been included in the test for only a single year. In that year it showed much promise. Trebi, over the full period, is undoubtedly the highest-yielding variety. It has been

recommended by the experiment station to be grown for feed, but not for market, because the maltsters discriminate against this variety, and that part of the crop not used on the farm does not bring as high a price as do the varieties preferred by maltsters.

The varieties recommended by the station for all sections are Improved Manchuria (C.I. 2330), Glabron, and Velvet for ordinary conditions. Trebi is recommended for the Red River Valley, Minsturdi for heavy soils where other varieties suffer from lodging, and Peatland (C.I. 5267) for peatland. For the cut-over district in northeastern and north-central Minnesota, Svansota, a two-rowed variety, is suggested.

Barley should be seeded as early as the ground can be prepared. This can usually be done by April 10 in some parts of the State, while in other sections it may not be possible before April 25. The recommended rate is 2 bushels per acre.

TABLE 12.—*Acre yields of varieties of barley grown at the Minnesota Agricultural Experiment Station, University Farm, St. Paul; at the Northeast Experiment Station, Duluth; at the Southeast Experiment Station, Waseca; at the North Central Experiment Station, Grand Rapids; at the West Central Experiment Station, Morris; and at the Northwest Experiment Station, Crookston, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Minnesota Agricultural Experiment Station]

Station and variety	C.I. no.	Minnesota no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield	
St. Paul:															
Manchuria	2330	184	3	Bu. 47.5	3	Bu. 32.9	3	Bu. 48.9	3	Bu. 34.1	3	Bu. 27.0	Bu. 38.1	5	81.7
Glabron	4577	445	3	45.4	3	30.1	3	51.8	3	42.0	3	43.1	42.5	5	91.1
Svansota	1907	440	3	45.0	3	38.1	3	51.2	3	32.3	3	35.1	40.3	5	86.5
Velvet	4252	447	3	43.4	3	28.4	3	49.5	3	36.6	3	39.9	39.6	5	84.9
Trebi <sup>1</sup>	936	448	3	60.2	3	34.1	3	60.7	3	41.5	3	36.6	46.6	5	100.0
Manchuria×Smooth Awn	4667	457	3	45.2	3	31.8	3	54.0	3	41.7	3	43.3	43.2	5	92.7
Smooth Awn×Manchuria	5998	462	3	50.3	3	37.5	3	58.1	3	41.0	3	36.6	44.7	5	95.9
Peatland	5267	452	3	49.0	3	34.8	3	49.4	3	33.1	3	32.8	39.8	5	85.4
Colless	2792	461	3	45.9	3	31.5	3	44.6	3	30.0	3	33.5	37.1	5	79.6
Heinrich's		465	3	49.4	3	39.3	3	53.9	3	33.4	3	28.9	41.0	5	87.9
Svanhals×Lion	5999	474					3	54.6	3	30.4	3	30.0		3	82.9
Do	6000	475					3	47.7	3	24.5	3	24.7		3	69.8
Minsturdi	1556	439							3	37.0	3	28.5		2	83.9
Composite Cross	4116								3	37.5	3	32.1		2	89.1
Mechanical Mixture	4115								3	34.8	3	35.2		2	89.6
Wisconsin Pedigree 38	5105	529									3	39.3		1	107.4
Jean's											3	26.8		1	73.2
Duluth:															
Manchuria	2330	184	3	51.8	3	36.3	3	33.2	3	26.4	3	29.0	35.3	5	87.6
Glabron	4577	445	3	56.0	3	37.0	3	25.8	3	31.7	3	29.7	36.0	5	89.3
Svansota	1907	440	3	41.9	3	22.5	3	21.1	3	32.8	3	25.7	28.8	5	71.4
Velvet	4252	447	3	60.0	3	38.0	3	29.7	3	27.9	3	26.3	36.4	5	90.2
Trebi <sup>1</sup>	936	448	3	65.1	3	41.3	3	30.5	3	30.9	3	33.9	40.3	5	100.0
Manchuria×Smooth Awn	4667	457	3	53.2	3	35.1	3	34.0	3	37.8	3	33.6	38.7	5	96.0
Smooth Awn×Manchuria	5998	462	3	62.9	3	39.6	3	23.9	3	32.9	3	28.1	37.5	5	92.9

<sup>1</sup> Standard variety with which others are compared.

TABLE 12.—Acre yields of varieties of barley grown at the Minnesota Agricultural Experiment Station, University Farm, St. Paul; at the Northeast Experiment Station, Duluth; at the Southeast Experiment Station, Waseca; at the North Central Experiment Station, Grand Rapids; at the West Central Experiment Station, Morris; and at the Northwest Experiment Station, Crookston, in 1 or more of the years 1927-31—Continued

Station and variety	C.I. no.	Minnesota no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Duluth—Continued.				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Pct.	
Peatland.....	5267	452	3	56.4	3	35.5	3	28.8	3	27.5	3	32.0	36.0	89.3	
Colsess.....	2792	461	3	62.5	3	34.4	3	28.5	3	33.2	3	21.0	35.9	89.0	
Svanhals×Lion.....	5999	474					3	24.3	3	34.4				95.6	
Do.....	6000	475					3	24.7	3	39.3	3	33.1		101.9	
Wisconsin Pedigree 38.....	5105	529									3	31.6		93.2	
Waseca:															
Manchuria.....	2330	184	3	41.3	3	57.4	3	49.5	3	40.4	3	48.9	47.5	80.8	
Glabron.....	4577	445	3	39.4	3	56.7	3	52.4	3	38.8	3	55.2	48.5	82.5	
Svansota.....	1907	440	3	36.3	3	55.3	3	47.1	3	40.5	3	47.3	45.3	77.0	
Velvet.....	4252	447	3	39.8	3	54.9	3	48.9	3	37.8	3	50.2	46.3	78.7	
Trebi 1.....	936	448	3	53.8	3	67.5	3	63.9	3	45.1	3	63.8	58.8	100.0	
Manchuria×Smooth Awn.....	4667	457	3	42.9	3	58.8	3	50.3	3	39.1	3	58.1	49.8	84.7	
Smooth Awn×Manchuria.....	5998	462	3	42.7	3	65.5	3	53.7	3	46.0	3	65.8	54.7	93.1	
Peatland.....	5267	452	3	45.4	3	53.0	3	50.5	3	42.7	3	48.6	48.0	81.7	
Colsess.....	2792	461	3	35.6	3	55.2	3	46.2	3	38.3	3	47.2	44.5	75.7	
Heinrich's.....	465				3	58.9	3	39.9	3	41.3	3	41.4		75.5	
Dryland.....	5673	466			3	48.1	3	38.1						65.6	
Svanhals×Lion.....	5999	474				3	41.4	3	44.4		3	46.5		76.6	
Do.....	6000	475				3	45.0	3	41.9		3	46.8		77.4	
Minsturdi.....	1556	439								3	48.2			75.5	
Wisconsin Pedigree 38.....	5105	529									3	58.8		92.2	
Grand Rapids:															
Glabron.....	4577	445	3	30.4	3	28.6	3	28.3	3	31.3	3	29.1	29.5	93.2	
Svansota.....	1907	440	3	32.1	3	39.7	3	34.0	3	32.4	3	29.7	33.6	105.9	
Velvet.....	4252	447	3	20.1	3	34.8	3	23.7	3	37.8	3	23.0	27.9	87.9	
Trebi 1.....	936	448	3	17.2	3	39.2	3	29.8	3	42.5	3	29.8	31.7	100.0	
Manchuria×Smooth Awn.....	4667	457	3	32.7	3	33.8	3	31.3	3	33.4	3	32.2	32.7	103.1	
Peatland.....	5267	452	3	14.9	3	44.4	3	27.1	3	38.9	3	34.7	32.0	100.9	
Colsess.....	2792	461	3	26.9	3	28.2	3	32.5	3	28.4	3	28.8	29.0	91.4	
Manchuria.....	2330	184			3	33.5	3	26.4	3	31.8	3	33.0		88.3	
Smooth Awn×Manchuria.....	5998	462			3	40.3	3	30.6	3	38.9	3	24.9		95.3	
Svanhals×Lion.....	5999	474				3	29.4	3	37.4	3	21.3			86.3	
Do.....	6000	475				3	30.9	3	40.6	3	19.7			89.3	
Heinrich's.....	465									3	23.2			77.9	
Wisconsin Pedigree 38.....	5105	529									3	34.5		115.8	
Morris:															
Manchuria.....	2330	184	3	43.6	3	35.1	3	27.3	3	19.3	3	27.4	30.5	83.1	
Glabron.....	4577	445	3	50.0	3	32.4	3	34.5	3	23.9	3	28.8	33.9	92.9	
Svansota.....	1907	440	3	49.1	3	42.3	3	31.4	3	26.4	3	25.8	35.0	95.9	
Velvet.....	4252	447	3	45.6	3	36.8	3	26.6	3	28.1	3	26.1	32.6	89.4	
Trebi 1.....	936	448	3	54.6	3	27.4	3	28.3	3	28.4	3	43.8	36.5	100.0	
Manchuria×Smooth Awn.....	4667	457	3	52.3	3	41.8	3	29.9	3	21.9	3	28.7	34.9	95.7	
Smooth Awn×Manchuria.....	5998	462	3	31.3	3	38.3	3	29.3	3	34.1	3	30.4	32.7	89.5	
Peatland.....	5267	452	3	45.4	3	26.8	3	26.5	3	26.0	3	29.9	30.9	84.7	
Colsess.....	2792	461	3	41.9	3	29.6	3	26.3	3	22.0	3	26.2	29.2	80.0	
Dryland.....	5673	466			8	29.1								106.2	
Svanhals×Lion.....	5999	474				3	32.4	3	27.5	3	19.4			78.9	
Do.....	6000	475				3	30.8	3	35.9	3	22.6			88.9	
Heinrich's.....	465									3	20.4			46.6	
Wisconsin Pedigree 38.....	5105	529									3	29.5		67.4	

<sup>1</sup>Standard variety with which others are compared.

TABLE 12.—Acre yields of varieties of barley grown at the Minnesota Agricultural Experiment Station, University Farm, St. Paul; at the Northeast Experiment Station, Duluth; at the Southeast Experiment Station, Waseca; at the North Central Experiment Station, Grand Rapids; at the West Central Experiment Station, Morris; and at the Northwest Experiment Station, Crookston, in 1 or more of the years 1927-31—Continued

Station and variety	C. I. no.	Minnesota no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Crookston:				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Pct.	
Manchuria.....	2330	184	3	26.0	---	(?)	3	32.1	3	34.0	3	39.9	33.0	4	88.4
Glabron.....	4577	445	3	27.6	---	---	3	33.5	3	35.7	3	38.1	33.7	4	90.4
Velvet.....	4252	447	3	32.8	---	---	3	29.1	3	36.7	3	41.3	35.0	4	93.7
Trebi <sup>1</sup> .....	936	448	3	36.8	---	---	3	33.1	3	32.5	3	46.9	37.3	4	100.0
ManchuriaXSmooth Awn.....	4667	457	3	25.9	---	---	3	40.1	3	35.9	3	45.7	36.9	4	98.9
Smooth AwnXManchuria.....	5998	462	3	31.9	---	---	3	48.5	3	35.2	3	48.6	41.1	4	110.0
Peatland.....	5267	452	3	39.8	---	---	3	33.7	3	29.0	3	41.6	36.0	4	96.5
Svansota.....	1907	440	3	34.2	---	---	3	39.5	3	38.6	3	40.5	38.2	4	102.3
Colsess.....	2792	461	3	28.1	---	---	3	31.5	3	27.9	3	36.5	31.0	4	83.1
SvanhalsX Lion.....	5999	474	---	---	---	---	3	35.3	3	32.1	3	37.6	---	3	93.3
Do.....	6000	475	---	---	---	---	3	39.5	3	36.7	3	44.1	---	3	106.9
Heinrich's.....	465	---	---	---	---	---	---	---	---	---	3	33.3	---	1	71.0
Wisconsin Pedigree 38.....	5105	529	---	---	---	---	---	---	---	---	3	49.9	---	1	106.4

<sup>1</sup> Standard variety with which others are compared.

\* No yields are reported at Crookston in 1928, because of a crop failure.

## MISSOURI

### AGRICULTURAL EXPERIMENT STATION, COLUMBIA

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The yields reported from Missouri are from nursery sowings at Columbia and from plot tests elsewhere (table 13). In the plot tests over the State, Trebi was the leading variety. It also showed up well in the nursery tests at Columbia. Although its yield was low in 1931, it was the leading variety in 1930. Some of the smooth-awned sorts showed promise in the nursery. Trebi is recommended to growers and should be seeded in March at the rate of 2 bushels per acre.

TABLE 13.—Acre yields of varieties of barley grown at the Missouri Agricultural Experiment Station, Columbia, and in the experiment fields at Grain Valley, Maryville, Elsberry, Shelbyville, and Stark City in 1 or more of the years 1929-31

[Data obtained through the courtesy of the Missouri Agricultural Experiment Station]

Station and variety	C.I. no.	Mo. no.	Number of plots and acre yield							Number of years grown and yield in comparison with standard variety for comparable years	
			1929		1930		1931		Average yield, 1929- 31	Years	Yield
			Plots	Yield	Plots	Yield	Plots	Yield			
<b>Columbia: <sup>1</sup></b>				<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>	<i>Bu.</i>		<i>Percent</i>
Oderbrucker <sup>2</sup> .....	940	B150	5	12.8	5	35.1	5	20.4	22.8	3	100.0
Flynn.....	1311	B63	5	10.1	5	28.4	5	11.1	13.0	3	80.4
Michigan 04103.....	4649	B70	5	12.0	5	32.6	5	20.7	21.8	3	95.6
Black Hull-less.....	596	B81	5	4.8	5	23.2	5	11.1	13.0	3	57.2
Success Beardless.....	1808	B83	5	5.6	5	35.5	5	27.7	22.9	3	100.7
Champion.....	2683	B84	5	7.5	5	29.6	5	19.6	18.9	3	83.0
Manchuria.....		B86	5	6.5	5	29.1	5	19.3	18.3	3	80.4
Do.....	244	B89	5	7.7	5	33.1	5	20.9	20.6	3	90.3
Improved Manchuria.....	2330	B94	5	6.9	5	39.4	5	21.6	22.6	3	99.4
Minsturd.....	1556	B96	5	7.7	5	39.3	5	24.8	23.9	3	105.1
Hero.....	1286	B97	5	9.0	5	35.2	5	26.4	23.5	3	103.4
Bonami.....	4664	B100	5	11.3	5	34.5	5	18.0	21.3	3	93.4
Velvet.....	4252	B112	5	4.4	5	28.6	5	11.0	14.7	3	64.4
Eagle.....	913	B147	5	6.0	5	36.9	5	26.7	23.2	3	101.9
Odessa.....	916	B148	5	8.7	5	34.6	5	17.6	17.0	2	90.4
Steigum.....	931	B149	5	3.6	5	36.1	5	15.3	18.2	2	82.9
Red River.....	973	B151	5	4.1	5	32.6	5	14.4	17.0	3	74.8
Odessa.....	974	B152	5	6.5	5	32.7	5	15.3	18.2	3	79.8
Limerick.....	1302	B155	5	15.0	5	43.0	5	17.6	25.2	3	110.7
Trebi.....	936	B98	5	5.6	5	46.1	5	15.7	15.7	2	111.4
Sandrel.....	937	B99	5	5.6	5	37.3	5	19.1	19.1	2	101.6
Club Mariout.....	261	B162	5	5.6	5	27.4	5	17.3	17.3	2	80.5
Minnesota.....	576	B164	5	5.6	5	23.2	5	15.4	15.4	2	69.5
Blue Ribbon.....	611	B166	5	5.6	5	35.8	5	15.7	15.7	2	92.8
Manchuria.....	643	B167	5	5.6	5	28.9	5	8.4	8.4	2	67.2
Ruble.....	870	B169	5	5.6	5	37.0	5	22.4	22.4	2	107.0
Lion.....	923	B174	5	5.6	5	36.4	5	15.4	15.4	2	93.3
Summit.....	929	B175	5	5.6	5	41.0	5	21.6	21.6	2	112.8
Oderbrucker.....	969	B177	5	5.6	5	31.0	5	12.5	12.5	2	78.4
Hodge.....	982	B178	5	5.6	5	39.5	5	17.0	17.0	2	101.8
Nekludowi.....	1000	B179	5	5.6	5	34.4	5	22.2	22.2	2	102.0
Brutus.....	1011	B180	5	5.6	5	27.7	5	11.7	11.7	2	71.0
Chinerme.....	1079	B181	5	5.6	5	21.3	5	16.4	16.4	2	67.9
Crocket.....	1094	B182	5	5.6	5	43.7	5	12.5	12.5	2	101.3
Manchuria.....	1178	B183	5	5.6	5	32.9	5	20.4	20.4	2	96.0
Arequipa.....	1256	B184	5	5.6	5	36.1	5	16.5	16.5	2	94.8
Catts.....	1283	B186	5	5.6	5	32.6	5	12.1	12.1	2	80.5
Hopper.....	1285	B187	5	5.6	5	31.9	5	15.8	15.8	2	85.9
Sirroche.....	1289	B189	5	5.6	5	26.8	5	23.8	23.8	2	91.2
Kipper.....	1291	B190	5	5.6	5	32.0	5	16.9	16.9	2	88.1
Heron.....	1299	B191	5	5.6	5	27.4	5	15.1	15.1	2	76.6
Theodore.....	1300	B192	5	5.6	5	28.1	5	17.6	17.6	2	82.3
Peruvian.....	935	B15	5	5.6	5	19.0	5	19.0	19.0	1	93.1
Hurst.....	1304	B193	5	5.6	5	13.0	5	13.0	13.0	1	63.7
Vitz.....	1306	B194	5	5.6	5	19.3	5	19.3	19.3	1	94.6
Louden.....	1308	B195	5	5.6	5	12.7	5	12.7	12.7	1	62.3
Himalayan.....	4838	B201	5	5.6	5	12.1	5	12.1	12.1	1	59.3
Spartan.....	5027	B202	5	5.6	5	17.2	5	17.2	17.2	1	84.3
<b>Columbia:</b>											
Oderbrucker <sup>2</sup> .....							4	31.3	-----	1	100.0
Velvet.....	4252						4	36.0	-----	1	115.0
Trebi.....	936						4	36.3	-----	1	116.0
<b>Grain Valley:</b>											
Oderbrucker <sup>2</sup> .....					3	26.3	4	37.7	-----	2	100.0
Velvet.....	4252				3	30.3	4	33.0	-----	2	98.9
Trebi.....	936				3	44.9	4	37.3	-----	2	128.4

<sup>1</sup> Yields from replicated nursery plots consisting of 3 rod rows each.<sup>2</sup> Standard variety with which others are compared.

TABLE 13.—*Acre yields of varieties of barley grown at the Missouri Agricultural Experiment Station, Columbia, and in the experiment fields at Grain Valley, Maryville, Elsberry, Shelbyville, and Stark City in 1 or more of the years 1929-31—Continued*

Station and variety	C. I. no.	Mo. no.	Number of plots and acre yield							Number of years grown and yield in comparison with standard variety for comparable years	
			1929		1930		1931		Average yield, 1929- 31		
			Plots	Yield	Plots	Yield	Plots	Yield			
Years	Yield										
Maryville:				<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>	<i>Bu.</i>		<i>Percent</i>
Oderbrucker <sup>1</sup> .....					4	24.3	5	22.6		2	100.0
Velvet.....	4252				4	23.4	5	17.1		2	86.4
Trebi.....	936				4	37.9	5	26.5		2	137.3
Elsberry:											
Oderbrucker <sup>1</sup> .....							4	48.6		1	100.0
Velvet.....	4252						4	44.1		1	90.7
Trebi.....	936						4	53.8		1	110.7
Shelbyville:											
Oderbrucker <sup>1</sup> .....							4	24.9		1	100.0
Velvet.....	4252						4	17.7		1	71.1
Trebi.....	936						4	24.3		1	97.6
Stark City:											
Oderbrucker <sup>1</sup> .....							4	8.7		1	100.0
Velvet.....	4252						4	2.7		1	31.0
Trebi.....	936						4	6.1		1	70.1

<sup>1</sup> Standard variety with which others are compared.

## MONTANA

## AGRICULTURAL EXPERIMENT STATION, BOZEMAN

CLYDE MCKEE, *agronomist, Department of Agronomy*

The climate of Montana is favorable to the growth of barley, and many varieties produce satisfactory yields when the rainfall is sufficient. At Havre, for instance, 11 varieties yielded more than 90 percent of Horn, the standard variety. This means that a choice of varieties based on yield alone is more or less arbitrary. Under dry-land conditions the consideration of test weight as an indication of general quality of the grain appears important, since two-rowed hulled barleys may exceed six-rowed hulled types by as much as 5 pounds per bushel on the average. All things considered, the State-wide performances of Trebi and Horn are in themselves recommendations for these varieties (table 14).

Seeding should be done as early as the season permits and, for dry land, preferably on clean summer fallow. A satisfactory rate on nonirrigated land is 5 to 6 pecks per acre and for irrigated land, 8 pecks per acre.



TABLE 14.—Acre yields of varieties of barley grown at the Montana Agricultural Experiment Station, Bozeman; at the Judith Basin Branch Station, Moccasin; at the North Montana Branch Station, Havre; and at the Huntley Field Station (dry land) in 1 or more of the years 1927-31

[Data for Bozeman and Havre obtained through the courtesy of the Montana Agricultural Experiment Station; for Moccasin, in cooperation with the station; and for Huntley, through the courtesy of the Division of Dry Land Agriculture]

Station and variety	C. I. no.	Montana no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years	
			1927		1928		1929		1930		1931			
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		
Bozeman:				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Pct.
Trebi <sup>1</sup>	936	1500	3	76.4	3	61.8	3	93.6	3	97.8	3	65.5	79.0	100.0
B×White Club B	4674	1566	3	58.3	3	56.5	3	100.0	3	93.9	3	74.7	76.7	97.0
Himalaya	620	1549	3	46.6	3	43.0	3	69.4	3	81.4	3	68.9	61.9	78.3
Faust	4579	1573	3	49.4	3	45.3	3	75.5	3	80.0	3	60.8	62.2	78.7
Horn	926	1539	3	48.6	3	62.3	3	86.4	3	94.2	3	91.1	76.5	96.8
Atlas	4118								3	106.9	3	95.0		123.6
Moccasin:														
White Smyrna	195		4	18.6	4	50.4	4	16.0	4	19.3			4	81.7
Hannchen	531		4	30.0	4	51.7	4	13.2	4	16.3	4	16.4	25.5	85.5
Svanhals	187		4	26.1										80.3
Horn <sup>1</sup>	926		4	32.5	4	58.2	4	17.0	4	19.9	4	21.6	29.8	100.0
Alpha	959		4	27.2	4	36.7								70.5
Hannchen Selection	5462		1	36.8	4	54.2	4	18.3	4	19.1	4	18.8	29.4	98.7
Coast	690		4	28.8	4	59.8	4	20.8	4	20.5	4	22.6	30.5	102.2
Club Mariout	261		4	22.7										69.8
Hurst	1304		4	24.1	4	58.2	4	19.3	4	19.4				94.8
Hero	1286		4	18.2										56.0
Manchuria	244		4	20.7										63.7
Arequipa	1256		4	22.3	4	56.5	4	19.4	4	18.1	4	19.9	27.2	91.3
Himalaya	620		4	20.4	4	47.4	4	13.5	4	16.1	4	16.1	22.7	76.1
Faust	4579		4	22.6	4	49.0	4	15.8	4	15.6	4	16.7	23.9	80.2
Meloy Selection 3	4656		4	22.4	4	56.2	4	23.6	4	19.1	4	22.7	28.8	96.5
Composite Cross	4116		4	20.7	4	54.8	4	16.5	4	15.0	4	16.1	24.6	82.5
Mechanical Mixture	4115		4	22.0	4	57.3	4	17.4	4	17.7	4	20.3	26.9	90.3
Trebi	936				4	66.7		18.8	4	19.4	4	20.2		107.2
New Composite Cross	5461								4	17.7	4	18.4		87.0
Havre:														
Beldi Giant	2777		3	65.6	2	69.8	2	31.3	3	23.6	3	10.1	40.1	97.7
Trebi	936		3	64.6	3	71.2	3	34.4	3	22.6	3	11.5	40.9	99.6
Hannchen	531		3	63.3	2	76.6	3	30.6	3	16.3	3	11.5	39.7	96.7
Horn <sup>1</sup>	926		3	62.3	3	77.1	3	35.8	3	18.8	3	11.1	41.0	100.0
Coast	690		3	60.2	2	73.4	2	38.5	3	22.6	3	6.3	40.2	98.0
Sandrel	937		3	60.0	2	63.0	2	38.0						91.9
Meloy	1176		3	59.6	2	63.5	3	42.4	3	25.7	3	7.3	39.7	96.8
Holland	952		3	58.5	2	69.3	2	32.3						91.4
Han River	206		3	57.3										92.0
Stelgum	907		3	56.8	2	69.3	3	35.1						92.0
Alpha	959		3	53.3	2	63.5	3	29.2	2	15.6	2	7.3	33.8	82.4
White Smyrna	195		3	47.1	3	62.1	2	39.6	3	21.5	3	10.1	36.1	88.0
Flynn	1311		3	45.0	2	62.0	2	42.7	2	24.5	2	7.8	36.4	88.7
Nepal	595		3	49.0	2	55.8	2	27.6	3	17.0	3	7.3	31.3	76.4
Faust	4579		3	48.6	2	61.0	3	26.8	3	17.8	3	5.6	32.0	77.9
Odessa	182				2	60.9	3	33.0	2	18.2	2	7.3		83.6
Spartan	5027				1	70.8	3	40.6	3	22.9	3	8.3		99.9
Velvet	4252								2	22.9	2	9.4		108.0
Huntley:														
Trebi <sup>1</sup>	936		1	55.8	2	10.2	2	19.4	3	.0		.0	17.1	100.0
Himalaya	620		1	51.0	2	5.8	2	10.6	3	.0		.0	13.5	78.9
White Smyrna	195		1	50.4	2	6.6	2	16.9	3	.0		.0		86.5
Horn	926		1	47.9	2	7.6	2	15.5	3	.0		.0	14.2	83.1
Hannchen	531		1	45.2	2	5.9	2	2.9	3	.0		.0	10.8	63.2
Success							2	7.9	3	.0		.0		40.7

<sup>1</sup> Standard variety with which others are compared.

<sup>2</sup> Crop failures in 1930 and 1931, due to drought.

## NEBRASKA

## AGRICULTURAL EXPERIMENT STATION, LINCOLN

T. A. KIESSELBACH, *professor of agronomy*, and W. E. LYNES, *assistant in agronomy*

Trebi, Glabron, Comfort, and Short Comfort are recommended for growing in Nebraska. As can be seen in table 15, all four of these varieties produced high yields at Lincoln, while Trebi and Short Comfort were very good at North Platte. Trebi is especially popular under irrigation and for growing where the crop is harvested with a combine. In the previous 5 years White Smyrna (C.I. 658) and Smyrna (C.I. 2642) were among the better sorts. A number of varieties have been grown for only 1 or 2 seasons. Some of these are very promising but cannot safely be recommended until their test has extended over a longer period.

Barley is usually seeded at the rate of 2 to 2½ bushels per acre in eastern Nebraska. The rate diminishes materially toward the west, under upland conditions.

TABLE 15.—*Acre yields of varieties of barley grown at the Nebraska Agricultural Experiment Station, Lincoln, and at the North Platte Substation in 1 or more of the years 1927-31*

[Data for Lincoln obtained through the courtesy of the Nebraska Agricultural Experiment Station, and those for North Platte in cooperation with the station]

Station and variety	C. I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931		Average yield, 1927-31	Years	Yield
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Lincoln:			Bu.		Bu.		Bu.		Bu.		Bu.			Pct.
Short Comfort.....	5907	3	54.0	3	59.1	3	40.7						3	95.1
Six-Row Common.....	4640	3	42.7	3	51.4	3	34.1	5	40.5	6	24.9	38.7	3	76.8
Manchuria.....	2330	3	38.8	3	55.2	3	34.9	5	41.2	6	30.5	40.1	3	79.6
Do.....	2947	3	48.9	3	51.0	3	35.5	5	44.9				3	85.9
Odessa.....	182	3	52.4	3	58.2	3	42.0	5	45.4	6	37.8	47.2	3	93.5
Club Mariout.....	261	3	38.4	3	41.1	3	40.7	5	52.0				3	82.0
Coast.....	690	3	43.3	3	59.6	3	47.0	5	58.6	6	35.9	48.9	3	96.9
Trebi.....	936	3	52.7	3	55.9	3	53.1	5	48.3	6	42.1	50.4	3	100.0
McClymont.....	2126	3	45.6	3	61.6	3	46.5	5	53.3				3	98.6
O. A. C. 21.....	1470	3	49.6	3	40.0	3	35.5						3	77.4
Vulgare X Smooth Awn.....	4646	3	51.3	3	52.8	3	42.7	5	61.7				3	99.3
Flynn.....	1311	3	48.5	3	48.4	3	38.1	5	64.0	6	44.4	48.7	3	96.5
Velvet.....	4252	3	47.3	3	57.1	3	31.8	5	28.9				3	78.6
Lion (Black Barbless).....	923	3	49.3	3	55.9	3	45.2	5	45.2				3	93.1
Glabron.....	4577	3	54.9	3	62.2	3	39.3	5	51.5	6	42.9	50.2	3	99.5
Hull-less (awnless).....		3	23.1	3	38.0	3	29.1	5	39.2				3	61.6
Beardless.....		3	33.5	3	41.7	3	26.8						3	63.1
Do.....		3	33.8	3	42.7	3	26.9						3	63.9
Collless.....	2792	3	42.5	3	52.3	3	46.1	5	50.8	6	39.3	46.2	3	91.6
Comfort.....	4578			3	61.2	3	37.2	5	47.7	6	39.8		3	93.2
Bon Ami.....	4664			3	52.6	3	33.7	5	50.2	6	38.8		3	87.9
Spartan.....	5027			3	49.0	3	38.1	5	55.4	6	45.9		3	94.5
Wisconsin Pedigree 37.....	5028			3	57.1	3	49.4	5	51.8	6	44.4		3	101.7
North Platte No. 1.....	5266							5	56.0	6	45.3		3	112.1
Horn.....	926							5	48.1	6	37.9		3	95.1
Vaughn.....	1367							5	51.8	6	39.5		3	101.0
Ezond.....	5064							5	52.1	6	44.3		3	106.6

<sup>1</sup> Standard variety with which others are compared.

TABLE 15.—Acre yields of varieties of barley grown at the Nebraska Agricultural Experiment Station, Lincoln, and at the North Platte Substation in 1 or more of the years 1927-31—Continued

Station and variety	Number of plots and acre yield												Number of years grown and yield in comparison with standard variety for comparable years		
	C. I. no.	1927		1928		1929		1930		1931		Average yield, 1927-31			
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield				
North Platte:															
McClymont	2126	4	Bu. 39.1	4	Bu. 43.1	4	Bu. 37.1	4	Bu. 38.3	4	Bu. 18.1	Bu. 35.1	5	Pct. 96.2	
Six-Row Common	4640	4	37.3	4	43.1	4	33.1	4	43.1	4	18.7	35.1	5	96.0	
Sandrel	937	4	38.1	4	46.2	4	31.2	4	44.8	4	21.1	36.3	5	99.3	
Manchuria	2330	4	32.1	4	35.6	4	28.9						3	80.2	
Composite Cross	4116	4	35.9	4	44.2	4	31.7						3	92.8	
Mechanical Mixture	4115	4	38.1	4	47.7	4	31.5						3	97.3	
Coast	690	4	41.1	4	45.8	4	32.9	4	43.5	4	17.7	36.2	5	99.1	
Smyrna	2642	4	45.4	4	36.1	4	31.0						3	93.4	
Butler	4589	4	41.9	4	36.1	4	32.9						3	92.0	
Trebi <sup>1</sup>	936	4	40.0	4	43.0	4	37.5	4	42.9	4	19.2	36.5	5	100.0	
Cape-Coast Hybrid	4654	4	40.4	4	57.9	4	25.8						3	103.0	
Club Mariout	932	4	34.6	4	51.5	4	32.1	4	39.2	4	16.9	34.9	5	95.5	
Snyder	4588	4	37.5	4	48.6	4	33.5	4	39.4				4	97.3	
Hannchen	531	4	30.2	4	32.1								2	75.1	
Short Comfort	5907	4	39.0	4	54.6	4	34.1	4	41.8	4	21.5	38.2	5	104.6	
Blackhull	878	4	34.4	4	23.9								2	70.2	
Colsess	2792	4	35.4	4	41.7	4	27.3						3	86.6	
Velvet	4252	4	29.6	4	42.7	4	26.5						3	82.0	
Himalaya	620	4	30.0	4	31.3	4	24.6						3	71.3	
Arequipa	1256			4	45.0	4	33.7	4	40.8	4	17.3		4	95.9	
Glabron	4577					4	30.4	4	29.2	4	20.0		3	79.9	
North Platte No. 5	5510					4	38.1	4	39.1	4	19.8		3	97.4	
North Platte No. 1	5266					4	37.7	5	42.8	12	20.2		3	101.1	
North Platte No. 3	5526					4	30.8	4	38.1				2	85.7	
North Platte No. 4	5488					4	31.7	4	50.2	4	20.0		3	102.3	
North Platte No. 2	5471					4	31.2	4	40.2				2	88.8	
Vaughn	1367							4	39.6	4	14.4		2	87.0	
Comfort	4578									4	18.8		1	97.9	
Flynn	1311									4	18.1		1	94.3	
Ezond	5064									4	23.1		1	120.3	
Spartan	5027									4	19.8		1	103.1	
Smyrna Selection 280 (N. P. <sup>2</sup> 18)	5466									1	21.7		1	113.0	
Coast 690-25 (N. P. <sup>2</sup> 19)	5483									1	20.8		1	108.3	

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> N. P. = North Platte.

## NEW JERSEY

## AGRICULTURAL EXPERIMENT STATION, NEW BRUNSWICK

HOWARD B. SPRAGUE, *agronomist*

An analysis of table 16 shows that Trebi has been the highest yielding variety in New Jersey in all of the years grown. It has not, however, been recommended to the farmers because of its rough awns and its tendency to lodge. Alpha and Velvet have been recommended for growing in all sections of the State. Alpha has been grown longer than either Velvet or Trebi, and in 1924 and 1925 it produced the highest yield of the varieties then under test. Bonami, a smooth-awned sort, has been promising for the 3 years compared. Its stand in 1931 was very poor owing to weevil injury of the seed, therefore the yield for that year was not considered comparable.

The usual rate of seeding is 10 pecks per acre, but for late seeding 12 pecks is probably a better rate. The usual seeding time in the New Brunswick area is April 15. April 1 is a more desirable date in the southern part of the State. In the northern districts seeding usually is done after April 15.

TABLE 16.—*Acre yields of varieties of barley grown at the New Jersey Agricultural Experiment Station, New Brunswick, in 1 or more of the years 1927–31*

[Data obtained through the courtesy of the New Jersey Agricultural Experiment Station. The 10 plots from which yields were taken as a basis for this test were each 12 feet in length, 3 rows wide, with 7 inches between rows]

Variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Pct.	
Alpha <sup>1</sup> .....	959	10	61.8	10	34.1	10	30.6	10	37.5	10	48.1	42.4	5	100.0
Club Maribout.....	261	10	62.0										1	100.3
Manchuria.....	244	10	59.8										1	96.8
Featherston.....	1120	10	50.5										1	81.7
Trebi.....	936			10	42.0	10	34.0	10	51.2	10	65.2		4	128.0
Horn.....	926			10	37.2	10	26.0	10	43.9				3	104.8
Velvet.....	4252	10	37.9	10	28.1	10	40.4	10	40.4	10	48.5		4	103.1
Bonami.....	4664	10	39.0	10	31.8	10	38.5						3	106.9
Comfort.....	4578	10	35.7	10	26.4	10	40.2	10	48.7				4	100.5
Svansota.....	1907	10	31.2	10	21.7	10	41.8						3	92.7
Glabron.....	4577			10	34.3	10	22.5	10	34.6	10	46.3		4	91.6
Spartan.....	5027									10	45.2		1	94.0

<sup>1</sup> Standard variety with which others are compared.

## NEW MEXICO

### AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE

J. C. OVERPECK, *professor of agronomy*

Higher yields have been secured at State College, N. Mex., from fall seeding than from spring. The winters are mild, and most varieties can be successfully seeded in the fall. As can be seen in table 17, the unnamed variety, C.I. 4673, has been consistently better than the other varieties grown at State College. At Capulin, White Smyrna has produced the highest yields. The best period for seeding fall-sown barleys at State College is from September 15 to October 15 and for spring-sown varieties from February 1 to 15. The best rate of seeding is 90 to 100 pounds per acre. At Capulin, barley is seeded late in May or early in June at the rate of about 1 bushel to the acre.

**TABLE 17.**—*Acre yields of varieties of barley grown at the New Mexico Agricultural Experiment Station, State College, and at the Capulin field in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the New Mexico Agricultural Experiment Station]

Station and variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
												Years	Yield	
State College:														
Spring sown:			<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>	<i>Bu.</i>		<i>Pct.</i>
Hanna	2788	3	35.0	4	33.4	3	19.8	3	27.3	3	51.7	33.4	5	58.7
Colless	2792	3	25.4	4	33.4	3	22.7	3	29.7	2	54.9	33.2	5	58.3
Unnamed	4672	2	24.9	4	30.9	3	34.8						3	60.2
Hull-less		3	18.5	4	16.6								2	35.5
Club Mariout	261									2	61.8		1	104.4
Wisconsin Pedigree 38	5105									2	53.9		1	91.0
Trebi	936									2	53.8		1	90.9
Horn	926									1	31.9		1	53.9
Faust	4579									1	25.7		1	43.4
Fall sown:														
Unnamed	4672	3	65.8	3	50.5	3	40.5	4	73.0	3	58.7	57.7	5	101.3
Tennessee Winter <sup>1</sup>	257	3	58.4	3	40.5	3	51.7	4	75.0	3	59.2	57.0	5	100.0
Unnamed	4673	3	71.1	3	57.8	3	64.7	4	80.8	3	74.5	69.8	5	122.5
Capulin:														
Colless	2792	2	33.7	3	8.7					2	16.0		3	98.6
Club Mariout <sup>1</sup>	261	2	37.8	3	11.1	2	11.5	2	10.6	2	10.3	16.3	5	100.0
Odessa	182			1	14.0	2	17.8	2	4.2	2	14.3		4	115.6
White Smyrna	195			1	10.0	2	11.8	2	14.0	2	23.9		4	137.2
Stavropol (Kansas local)	2103			1	11.3	2	13.5	2	9.4	2	21.4		4	127.8
Stavropol H.C. 249	5913			1	10.5	2	10.9	2	8.8				3	91.0
Flynn	1311			1	11.8	2	12.3	2	5.7				3	89.8

<sup>1</sup> Standard variety with which others are compared.

## NEW YORK

NEW YORK AGRICULTURAL EXPERIMENT STATION, CORNELL UNIVERSITY, ITHACA

H. H. LOVE, *professor of plant breeding*, and W. T. CRAIG, *experimentalist in plant breeding*

The results from Ithaca, N. Y., reported in table 18 were obtained in nursery tests. The highest 5-year average yield was secured from an unnamed selection (State selection 106-181). Its yield was distinctly higher than that of any other variety. The yield of Alpha was exceeded slightly by many other sorts. Alpha and Featherston No. 7 are still considered useful varieties for the farmer to grow. They should be seeded in April at the rate of 2 bushels per acre.

TABLE 18.—*Acres yields of varieties of barley grown at the New York Agricultural Experiment Station at Cornell University, Ithaca, in 1 or more of the years 1927-31*

[Data obtained in cooperation with the New York Agricultural Experiment Station. The yields of ten 1-rod rows were taken as the basis of each test]

Variety	C.I. no.	Cornell no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931			Average yield, 1927-31	
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Alpha 1	959		10	Bu. 53.0	10	Bu. 48.8	10	Bu. 14.8	10	Bu. 35.6	10	Bu. 48.7	Bu. 40.2	5	100.0
Chevron	1111		10	47.0	10	47.9	10	19.2	10	46.1	10	47.9	41.6	5	103.6
Swiss Spring	5900		10	49.4	10	44.6	10	18.9	10	46.2	10	47.2	41.3	5	102.7
Michigan	1160		10	50.4	10	49.9	10	20.3	10	50.6	10	45.2	43.3	5	107.7
Lion X Manchuria	1192		10	52.7	10	45.7	10	18.6	10	48.3	10	46.3	42.1	5	104.8
Wisconsin			10	55.2	10	47.5	10	19.3	10	46.5	10	43.8	42.5	5	105.7
Silver King		101-19	10	50.9	10	42.0	10	18.6	10	47.4	10	41.0	40.0	5	99.5
Oderbrucker (Wisconsin Pedigree 5)	1272		10	47.8	10	46.0	10	18.5	10	50.6	10	42.6	41.1	5	102.3
Unnamed		28-23-103	10	59.5	10	45.8	10	21.4	10	46.4	10	41.5	42.9	5	106.8
Do		101-58	10	42.1	10	42.2	10	19.9	10	43.2	10	40.4	37.6	5	93.5
Manchuria Pedigree	1244		10	49.6	10	45.2	10	19.4	10	50.1	10	40.8	41.0	5	102.1
Manchuria	643		10	48.5	10	47.4	10	19.7	10	47.0	10	40.5	40.6	5	101.5
Oderbrucker		103-42	10	48.3	10	50.3	10	18.0	10	48.5	10	38.9	40.8	5	101.5
Featherston No. 7	1120		10	42.9	10	47.4	10	14.6	10	42.6	10	38.8	37.3	5	92.7
Wisconsin 511			10	54.8	10	41.2	10	19.6	10	44.3	10	37.8	39.5	5	98.4
Red River	973		10	48.7	10	53.9	10	17.7	10	42.4	10	34.4	35.4	5	88.2
Comfort (451)	4578		10	59.1	10	50.5	10	19.9	10	41.9	10	46.3	43.5	5	108.4
Unnamed		28-23-13-275-240	10	52.2	10	46.8	10	14.9	10	42.2	10	46.6	40.5	5	100.9
Do		28-23-13-275-241	10	53.2	10	44.3	10	15.3	10	40.1	10	45.0	39.6	5	98.5
Do		28-251	10	54.9	10	46.4	10	14.9	10	47.9	10	43.4	41.5	5	103.3
Do			10	49.6	10	44.5	10	18.9	10	48.7	10	42.1	40.8	5	101.4
Velvet (447)	4252		10	53.5	10	48.0	10	16.3	10	48.0	10	43.1	41.8	5	104.0
Do		28-147	10	55.6	10	47.7	10	16.8	10	51.8	10	41.2	42.6	5	106.1
Do		28-1	10	58.3	10	41.9	10	13.8	10	43.1	10	42.6	39.9	5	99.4
Do		28-254	10	59.0	10	47.2	10	15.6	10	47.1	10	41.4	42.1	5	104.7
Do		28-3	10	57.3	10	46.7	10	11.9	10	48.1	10	41.5	39.1	5	97.3
Do		28-135	10	52.2	10	46.7	10	16.1	10	44.4	10	41.8	40.2	5	100.0
Do		28-145	10	52.2	10	46.7	10	16.1	10	44.4	10	41.8	40.2	5	100.0

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Do.....	28-373.....	10	56.2	10	39.4	10	11.6	10	45.4	10	41.7	38.9	5	96.7
Do.....	28-433.....	10	60.7	10	44.9	10	13.6	10	45.4	10	40.4	41.0	5	102.0
Do.....	28-23-383.....	10	54.3	10	44.5	10	17.2	10	42.5	10	40.5	40.0	5	99.7
Do.....	28-376.....	10	54.3	10	39.6	10	12.2	10	47.0	10	40.5	38.7	5	96.4
Do.....	28-252.....	10	51.3	10	42.5	10	13.6	10	47.9	10	39.5	39.0	5	97.2
Do.....	28-401.....	10	54.6	10	42.5	10	12.4	10	42.5	10	39.5	38.3	5	95.3
Do.....	28-22-465-1.....	10	61.2	10	44.8	10	13.0	10	42.4	10	38.3	38.9	5	99.4
Do.....	28-265.....	10	55.3	10	42.2	10	14.4	10	43.8	10	38.6	38.9	5	96.7
Do.....	4577.....	10	52.4	10	38.4	10	15.3	10	41.8	10	35.4	36.7	5	91.2
Glabron (445).....	State Sel. 105-181.....	10	62.4	10	50.1	10	19.0	10	50.0	10	54.0	47.1	5	117.2
Unnamed.....	State Sel. 104-37.....	10	52.8	10	52.6	10	20.4	10	47.1	10	49.1	44.4	5	110.5
Do.....	State Sel. 104-14.....	10	49.8	10	47.5	10	16.9	10	42.0	10	48.1	40.9	5	101.7
Do.....	Goldfoil.....	10	57.7	10	53.7	10	18.7	10	43.2	10	46.8	44.0	5	109.6
Do.....	Unnamed.....	10	60.8	10	40.4	10	13.4	10	42.1	10	46.2	40.6	5	101.0
Do.....	28-22-420-3.....	10	50.7	10	50.7	10	20.3	10	50.2	10	39.9	40.6	4	108.9
Do.....	28-22-422-3.....	10	47.3	10	47.3	10	19.3	10	43.9	10	40.9	40.9	4	102.4
Do.....	28-22-422-2.....	10	47.9	10	47.9	10	19.5	10	41.6	10	38.6	38.6	4	99.8
Do.....	28-22-420-5.....	10	51.2	10	51.2	10	18.1	10	42.1	10	37.9	37.9	4	100.9
Do.....	28-22-86-2.....	10	49.2	10	49.2	10	16.3	10	43.7	10	43.2	43.2	4	103.0
Do.....	28-22-86-1.....	10	48.7	10	48.7	10	15.7	10	45.8	10	40.8	40.8	4	102.1
Do.....	28-22-15-2.....	10	43.8	10	46.6	10	11.8	10	41.7	10	39.4	39.4	4	94.3
Do.....	2023al-2.....	10	45.7	10	45.7	10	14.3	10	41.2	10	37.8	37.8	4	92.7
Do.....	28-22-86-4.....	10	48.3	10	48.3	10	19.1	10	43.2	10	39.2	39.2	4	95.6
Do.....	28-22-15-1.....	10	39.3	10	39.3	10	14.6	10	46.1	10	36.3	36.3	4	100.1
Do.....	204al-1.....	10	47.9	10	47.9	10	11.6	10	31.7	10	31.2	31.2	4	97.3
O.K. Beardless.....	204al-1.....	10	44.2	10	44.2	10	12.5	10	40.2	10	41.5	41.5	4	76.9
Unnamed.....	210al-26-21.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	4	80.4
Spartan.....	204al-26-238.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	4	88.3
Unnamed.....	Sel. 87.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	3	93.3
Do.....	Sel. 129.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	109.7
Do.....	Sel. 297.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	107.8
Do.....	Sel. 132.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	108.1
Do.....	Sel. 217.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	106.6
Do.....	5077.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	102.3
Do.....	5105.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	102.4
Victory.....	Wisconsin Pedigree 38.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	121.6
Unnamed.....	204al-27-243.....	10	44.2	10	44.2	10	11.6	10	27.4	10	34.8	34.8	2	96.9

Standard variety with which others are compared.

## NORTH CAROLINA

AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE STATION, RALEIGH

G. M. GARREN, *cereal agronomist*

The acreage of barley is increasing in North Carolina. The farmers prefer the hooded varieties even though they may yield less than the bearded ones. Actual tests are limited, but it will be noted that in 1931 the yield of the bearded variety was 120 percent of that of the best hooded one (table 19).

Rowan and Tennessee Beardless 6 are recommended. They should be seeded in October at the rate of 2 bushels per acre.

TABLE 19.—*Acre yields of varieties of barley grown at Piedmont Branch Station, Statesville, N. C., in the years 1927-31*

[Data obtained through the courtesy of the North Carolina Agricultural Experiment Station]

Variety	C.I. no.	Number of plots and acre yield <sup>1</sup>									Number of years grown and yield in comparison with standard variety for comparable years	
		1927		1928		1930		1931		Average yield, 1927-31		
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
											Years	Yield
Rowan (North Carolina) <sup>2</sup> .....	5672	1	Bu. 60.0	1	Bu. 35.3	1	Bu. 28.2	1	Bu. 41.2	Bu. 40.7	4	Pct. 100.0
Tennessee Beardless 6 .....	2746	1	48.2	1	36.0	1	29.5	1	35.4	37.3	4	91.6
Tennessee Beardless 5 .....	3384	1	38.2								1	63.7
North Carolina (B) .....						1	25.0	1	49.5		2	110.5
Harlan Composite Cross (mixture no. 1) .....								1	47.9		1	116.3
Harlan Composite Cross (mixture no. 2) .....								1	45.8		1	111.2

<sup>1</sup> No yields reported for 1929.<sup>2</sup> Standard variety with which others are compared.

## NORTH DAKOTA

AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE STATION, FARGO

T. E. STOA, *assistant agronomist*

Trebi has been the outstanding barley in North Dakota during the 5 years 1927-31. It will be noted in table 20 that Dickinson is the only station of the seven reported where the yield of Trebi is exceeded by other varieties. The two-rowed varieties have always done well at Dickinson, and Steigum has been the highest-yielding variety at that place. Of the commonly grown smooth-awned varieties tested during the 5-year period under discussion, Glabron was good at Dickinson, Williston, and Mandan. Velvet was among the best at Langdon and Hettinger for the years tested. Two new smooth-awned strains, Wisconsin Pedigree 37 and Wisconsin Pedigree 38, which were recently introduced into the tests at Langdon, showed promise. Lion, a black smooth-awned variety, was second in rank of the varieties tested for the entire 5-year period at Dickinson and was among the best at Fargo. Strains of Manchuria produced satisfactory



yields at Fargo, Dickinson, and Mandan (Featherston, C.I. 1120). The zero yields at Williston in 1931 were caused by drought.

Trebi is recommended as a feed barley throughout most of North Dakota. Manchuria is perhaps the best market variety, although Velvet also is satisfactory to maltsters.

In eastern North Dakota, Manchuria should be seeded at the rate of 6 pecks per acre, but 5 pecks is sufficient farther west. For Trebi and other large-seeded varieties, the rate should be higher. The seed should be sown in late April or early May.

TABLE 20.—*Acre yields of varieties of barley grown at the North Dakota Agricultural Experiment Station, Fargo; at the Dickinson, Edgeley, Hettinger, Langdon, and Williston Substations; and at the Northern Great Plains Field Station, Mandan, in 1 or more of the years 1927-31*

[Data for Fargo, Edgeley, Hettinger, Langdon, and Williston obtained through the courtesy of the North Dakota Agricultural Experiment Station; for Dickinson, in cooperation with the station; and for Mandan, in cooperation with the Division of Dry Land Agriculture]

Station and variety	C.I. no.	Station no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield	
Fargo:				Bu.		Bu.		Bu.		Bu.		Bu.		Pct.	
Manchuria <sup>1</sup> .....	244	871	3	37.1	3	40.2	3	46.1	3	59.4	3	16.9	5	100.0	
Do.....	2947	2121	3	38.8	3	41.8	3	53.9	3	59.4	3	24.7	5	109.5	
Lion.....	923		3	44.6	3	35.1	3	54.7	3	64.7	3	22.0	5	110.7	
Manchuria.....	2330	{ Minn. 184 }	3	38.0									1	102.4	
Minsturdi.....	1556		3	37.8									1	101.9	
Trebi.....	936		3	44.4	3	46.8	3	54.6	3	66.7	3	25.6	5	119.2	
Odessa.....	182		3	38.9	3	39.6	3	52.5	3	59.0	3	26.3	5	108.3	
Velvet.....	4252		3	34.7	3	35.6	3	46.7	3	54.2	3	20.3	5	95.9	
Mechanical Mixture.....	4115		3	37.1	3	37.9	3	47.8	3	56.5			4	98.1	
Composite Cross.....	4116		3	37.5	3	39.1	3	50.7	3	58.4	3	20.4	5	103.2	
O. A. C. 21.....	1470		3	41.2	3	40.2	3	47.5	3	58.1	3	23.3	5	105.3	
Glabron.....	4577		3	34.9	3	34.6	3	41.5	3	53.5	3	20.4	5	92.6	
Bearer.....	4707		3	36.7	3	42.6	3	47.2	3	50.8	3	13.8	5	95.7	
Wing Pedigree.....	1177		3	32.9	3	32.6							2	84.7	
Nepal.....	262		3	29.3	3	21.3	3	35.5	3	40.8	3	7.1	5	67.1	
Hannchen.....	531		3	42.3	3	46.9	3	59.1	3	62.0	3	19.3	5	115.0	
Duckbill.....	1916		3	25.3	3	29.9	3	41.0	3	44.1			4	76.8	
Charlottetown 80.....	2732		3	31.3	3	36.7	3	42.0	3	50.6			4	87.9	
Svansota.....	1907				3	42.4	3	51.8	3	53.8	3	16.4	4	101.1	
Spartan.....	5027						3	41.7	3	52.2	3	20.8	3	93.7	
Wisconsin Pedigree 38.....	5105								3	62.8	3	12.0	2	98.0	
Steigum.....	907									3	23.0		1	136.1	
Edgeley:															
Manchuria.....	2947		3	53.8	3	23.1	3	29.0	3	26.1	3	21.2	5	74.0	
Trebi <sup>1</sup> .....	936		3	55.9	3	30.0	3	53.5	3	36.2	3	29.0	5	100.0	
Nepal.....	262		3	33.7	3	13.3	3	32.9	3	27.6	3	12.4	5	58.6	
Hannchen.....	531		3	56.9	3	25.3	3	40.8	3	29.4	3	18.3	5	83.4	
Velvet.....	4252				3	33.9	3	30.3	3	30.6	3	20.4	4	77.5	
Glabron.....	4577				3	29.2	3	35.0	3	28.8	3	20.7	4	76.5	
Odessa.....	182				3	30.6	3	40.8	3	26.4	3	24.8	4	82.3	
Svansota.....	1907				3	26.1	3	34.4	3	33.0	3	17.7	4	74.8	
Bearer.....	4707						3	29.7	3	31.4	3	11.9	3	61.5	
Spartan.....	5027						3	27.5	3	33.0	3	22.2	3	69.7	
Wisconsin Pedigree 38.....	5105										3	20.9	1	72.1	
Fredenburg.....											3	25.4	1	87.6	
Steigum.....	907										3	20.9	1	72.1	

<sup>1</sup>Standard variety with which others are compared.

TABLE 20.—Acre yields of varieties of barley grown at the North Dakota Agricultural Experiment Station, Fargo; at the Dickinson, Edgeley, Hettinger, Langdon, and Williston substations; and at the Northern Great Plains Field Station, Mandan, in 1 or more of the years 1927–31—Continued

Station and variety	C.I. no.	Station no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years			
			1927		1928		1929		1930		1931				Average yield, 1927-31	
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield				
				Bu. (T)		Bu. (T)		Bu. (T)		Bu. (T)		Bu. (T)		Bu. (T)	Years	Yield
<b>Hettinger:</b>																
Manchuria	2947		(T)		3	39.9	3	23.3	3	23.9	3	5.5	24.4	4	72.7	
Trebi <sup>1</sup>	936				3	51.0	3	34.3	3	36.3	3	12.6	33.6	4	100.0	
Nepal	262				3	27.9	3	21.5	3	32.1	3	4.7	21.6	4	64.2	
Hannchen	531				3	39.9	3	31.9	3	19.2	3	9.1	25.0	4	74.6	
Velvet	4252						3	29.8	3	31.9	3	6.5		3	82.0	
Glabron	4577						3	24.6	3	31.9	3	5.0		3	73.9	
Svansota	1907						3	31.2	3	27.0	3	5.2		3	76.2	
Steigum	907								3	29.3		8.4		2	77.1	
Wisconsin Pedigree 38	5105										3	7.2		1	57.1	
Odessa	182											8.5		1	67.5	
Dryland	5673										3	8.8		1	69.8	
<b>Langdon:</b>																
Nepal	595	3	37.0	3	21.3	3	17.5	3	23.1	3	17.9	23.4	5	5	48.1	
Manchuria	2947	3	52.2	3	35.8	3	19.9	3	44.1	3	23.5	35.1	5	5	72.3	
Trebi <sup>1</sup>	936	3	79.1	3	43.8	3	30.5	3	60.4	3	23.8	43.6	5	5	100.0	
Bearer	4707	3	65.4	3	39.1	3	14.5	3	45.3	3	22.6	37.4	5	5	77.0	
Hannchen	531	3	74.5	3	42.0	3	24.1	3	54.4	3	22.6	44.3	5	5	91.3	
Glabron	4577			3	32.5	3	20.5	3	43.5	3	24.6		4	4	74.1	
Velvet	4252			3	33.3	3	21.5	3	47.1	3	26.5		4	4	78.5	
Svansota	1907			3	29.1	3	20.8	3	56.9	3	26.6		4	4	81.6	
Spartan	5027					3	23.8	3	37.9	3	15.9		3	3	64.8	
Wisconsin Pedigree 37	5028							3	64.4		30.9		2	2	103.8	
Wisconsin Pedigree 38	5105									3	33.4		1	1	116.0	
Steigum	907									3	25.0		1	1	86.8	
<b>Williston:</b>																
Manchuria	882	170	3	41.0	3	50.5	3	39.2	3	27.1			4	4	71.7	
Do	2947		3	50.8	3	53.4	3	41.1	3	28.5	3	.0	34.8	5	79.0	
Trebi <sup>1</sup>	936		3	53.9	3	69.3	3	52.7	3	44.2	3	.0	44.0	5	100.0	
Nepal	262		3	37.5	3	30.4	3	34.4	3	22.9	3	.0	26.0	5	59.2	
Hannchen	531		3	48.3	3	60.3	3	40.4	3	31.1	3	.0	36.0	5	81.8	
Glabron	4577				3	46.8	3	49.8	3	36.4	3	.0		4	80.0	
Velvet	4252				3	42.9	3	43.0	3	21.7	3	.0		4	64.7	
Svansota	1907						3	37.4	3	30.8	3	.0		3	70.4	
Steigum	907						3	49.1	3	28.2	3	.0		3	79.8	
Wisconsin Pedigree 38	5105										.0			1		
<b>Mandan:</b>																
Featherston	1120		3	12.3	3	36.2	3	16.9	3	11.9	3	12.1	17.9	5	100.3	
Odessa	182		3	20.5	3	38.5	3	22.9	3	11.6	3	12.8	21.3	5	119.3	
Trebi	936		3	21.3	3	49.1	3	21.7	3	12.0	3	13.5	23.5	5	132.0	
Meloy	1176		3	16.2	3	24.7								2	76.9	
Alpha	959		3	18.2	3	39.3	3	16.2	3	6.1				4	106.1	
Horn	926		3	24.6	3	44.3	3	19.6	3	3.2	3	13.2	21.0	5	117.7	
Orel	351		3	26.8	3	27.1								2	101.3	
Hannchen <sup>1</sup>	531		3	19.4	3	33.8	3	20.8	3	1.2	3	13.9	17.8	5	100.0	
Charlottetown 80	2732				1	32.8	1	11.3						2	80.8	
Glabron	4577						3	20.8	3	13.0	3	13.9		3	132.9	
Vaughn	1367						3	16.7	3	7.5	3	6.1		3	84.4	
New Composite Cross (spring)	5461								1	.5	2	13.3		2	91.4	
<b>Dickinson:</b>																
White Smyrna	658		3	22.6	3	26.7	3	11.0	3	22.8	3	5.3	17.7	5	81.2	
Steigum	907		3	31.2	3	38.2	3	21.2	3	31.1	3	5.4	25.4	5	116.7	
Hannchen <sup>1</sup>	531		3	29.2	3	32.1	3	18.4	3	25.3	3	3.9	21.8	5	100.0	
Hanna	203		3	27.2	3	31.5	3	17.9	3	28.2	3	3.1	21.6	5	99.1	
Scholey	962		3	25.5	3	33.7	3	15.1	3	22.7				4	92.4	

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> No yields are reported for 1927 at Hettinger, as hail destroyed the crop.

TABLE 20.—Acre yields of varieties of barley grown at the North Dakota Agricultural Experiment Station, Fargo; at the Dickinson, Edgeley, Hettinger, Langdon, and Williston Substations; and at the Northern Great Plains Field Station, Mandan, in 1 or more of the years 1927-31—Continued

Station and variety	C.I. no.	Station no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
														Years	Yield
Dickinson—Continued.				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Svanhals.....	187	---	3	22.8	3	28.4	3	12.8	3	19.3	---	---	---	4	79.3
Gold.....	1145	---	3	27.6	3	33.6	3	14.6	3	19.7	---	---	---	4	91.0
Charlottetown 80.....	2732	---	1	21.0	3	29.2	3	13.6	3	25.9	---	---	---	4	85.4
Duckbill.....	1916	---	1	20.0	3	25.7	---	---	---	---	---	---	---	2	74.6
Manchuria.....	244	---	3	29.3	3	26.5	3	15.0	3	33.5	3	6.1	22.1	5	101.4
Odessa.....	182	---	3	28.9	3	27.6	3	18.6	3	33.5	3	3.8	22.5	5	103.2
Lion.....	923	---	3	30.6	3	23.4	3	19.3	3	35.8	3	6.3	23.1	5	106.0
Flynn.....	1311	---	3	15.9	---	---	---	---	---	---	---	---	---	1	54.5
Club Mariout.....	932	---	3	16.6	---	---	---	---	---	---	---	---	---	1	56.8
White Gatami.....	920	---	3	20.4	3	19.4	---	---	---	---	---	---	---	2	64.9
Nepal.....	262	---	3	26.4	3	23.2	2	10.4	3	30.8	2	2.8	18.7	5	86.0
Wing Pedigree.....	1177	---	3	19.1	3	17.0	---	---	---	---	---	---	---	2	58.9
Velvet.....	4252	---	---	---	3	24.6	3	16.6	3	30.1	3	3.6	---	4	94.0
Glabron.....	4577	---	---	---	3	26.1	3	18.4	3	36.3	3	6.4	---	4	109.4
Svansota.....	1907	---	---	---	---	---	3	17.8	3	29.1	3	3.5	---	3	105.9
Horn.....	926	---	---	---	---	---	3	19.9	3	31.6	3	1.2	---	3	110.7
Trebi.....	936	---	---	---	---	---	3	9.6	3	26.5	3	5.3	---	3	87.0
Wisconsin Pedigree 38.....	5105	---	---	---	---	---	---	---	---	---	---	6.4	---	1	164.1
Regal.....	5030	---	---	---	---	---	---	---	---	---	3	6.2	---	1	159.0

## OHIO

J. B. PARK, chairman, Department of Farm Crops, Ohio State University, Columbus, and associate in agronomy, Ohio Agricultural Experiment Station, Wooster

More than half of Ohio's total barley crop is grown in 10 of the northwestern counties. In northeastern Ohio the prevailing acid soils are unfavorable to barley, and in the southern part the climate is unfavorable to spring barley. Winter barley is grown somewhat in four southwestern counties, but the total acreage is small.

The yield tests reported in table 21 show that Glabron is definitely superior to Velvet at all stations where tests were made, except at Columbus and in Hamilton County. At Columbus the two are practically equal. In Hamilton County spring barley is grown very little. Glabron and Velvet are recommended throughout the State. Trebi has made an excellent record at Columbus. It has not been recommended to growers as yet because of the prejudice against rough awns, and because it sometimes grows so short that harvesting is difficult.

The recommended rate of seeding is 2 bushels per acre. It should be sown the first week of April, or as soon after that as the soil is in condition for working.

TABLE 21.—*Acre yields of varieties of barley grown at the Ohio Agricultural Experiment Station, Wooster; at the Ohio State University, Columbus; and at 4 county experiment farms—Paulding (northwest), Miami and Madison (west central), and Hamilton (southwest)—in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Ohio Agricultural Experiment Station]

Station and variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
												Years	Yield	
Wooster:														
Wisconsin Pedigree	835	2	Bu. 39.5		Bu.		Bu.		Bu.		Bu.	Bu.	1	Pct. 80.9
Lion (Michigan Black Barless)	923	2	44.6	2	31.4	2	10.9	2	15.4	2	51.2	30.7	5	97.6
Velvet	4252	2	55.8	2	42.1	2	15.4	2	20.9	2	54.4	37.7	5	120.0
Oderbrucker <sup>1</sup>	836	2	48.8	2	36.5	2	11.6	2	16.6	2	43.7	31.4	5	100.0
Featherston	1120	2	47.0	2	43.3	2	12.6	2	21.9	2	42.0	33.4	5	106.1
O. A. C. 21	1470	2	47.8	2	42.8	2	15.0	2	19.6	2	50.0	35.0	5	111.5
Trebi	936	2	63.2	2	34.5	2	12.5	2	15.3	2	42.7	33.6	5	107.0
Nepal (White Hull-less) <sup>2</sup>	595	2	24.8	2	17.0	2	6.0	2	20.0	2	33.6	20.3	5	64.5
Manchuria (Minnesota 184)	2330	2	51.5	2	41.2	2	12.1	2	19.7	2	42.3	33.4	5	106.1
Minsturdi	1556	2	51.0	2	20.1	2	13.0	2	16.9	2	56.1	31.4	5	99.9
Horn	926	2	62.5	2	36.8	2	13.5	2	24.4	2	45.2	36.5	5	116.0
Alpha	959	2	63.6	2	40.2						54.3	3	122.6	
Glabron	4577			2	46.3	2	16.6	2	22.1	2	51.7	4	126.1	
Spartan	5027			2	41.3	2	14.2	2	20.1	2	52.5	4	118.2	
Wisconsin Pedigree 37	5028			2	47.9	2	14.7	2	17.7	2	51.5	4	121.6	
Hooded (Horsford)		2		2	29.1	2	8.4	2	17.4	2	47.8	4	94.7	
Columbus:														
Oderbrucker <sup>1</sup>	836	3	42.5	3	54.6	3	42.3	3	36.6	3	59.9	47.2	5	100.0
Featherston	1120	3	39.8	3	65.7	3	45.1	3	40.0	3	65.9	51.3	5	108.7
Velvet	4252	3	49.6	3	55.6	3	42.3	3	40.9	3	64.0	50.5	5	107.0
Six-Row Hooded		3	39.6	3	45.7	3	33.8	3	38.3	3	48.5	41.2	5	87.3
Trebi	936	3	50.4	3	72.0	3	47.2	3	46.9	3	75.7	58.4	5	123.9
Nepal (White Hull-less) <sup>2</sup>	595	3	22.8	3	26.7	3	23.9	3	16.2	3	40.7	26.1	5	55.2
Glabron	4577					3	40.4	3	45.2	3	61.5	3	106.0	
Spartan	5027					3	35.9	3	40.0	3	59.9	3	97.8	
Comfort	4578									3	60.7	1	101.3	
Paulding County:														
Oderbrucker <sup>1</sup>	836	3	17.5	3	41.7	3	30.3	3	33.9	3	33.0	31.3	5	100.0
Velvet	4252	3	12.3	3	40.6	3	13.3	3	33.8	3	31.8	26.4	5	84.3
Glabron	4577	3	24.3	3	43.9	3	24.2	3	43.9	3	34.5	34.2	5	109.2
Trebi	936			3	50.2	3	36.9	3	34.4	3	27.6		4	107.3
Miami County:														
Oderbrucker <sup>1</sup>	836	3	42.4	3	23.7	3	23.3	3	48.3	3	29.4	33.4	5	100.0
Velvet	4252	3	33.2	3	16.4	3	30.2	3	47.6	3	34.4	32.4	5	96.8
Glabron	4577					3	28.1	3	48.4	3	31.6		3	107.0
Madison County:														
Oderbrucker <sup>1</sup>	836	3	31.7	3	33.3	3	40.2	3	33.8	3	36.9	35.2	5	100.0
Velvet	4252	3	35.0	3	35.6	3	35.4	3	29.5	3	44.0	35.9	5	102.0
Glabron	4577					3	40.2	3	30.7	3	42.0		3	101.8
Hamilton County:														
Oderbrucker <sup>1</sup>	836	3	38.1	3	27.9	3	7.5	3	8.5	3	15.2	19.4	5	100.0
Nepal (White Hull-less) <sup>2</sup>	595	3	28.7	3	8.0								2	55.6
Velvet	4252			3	34.0	3	32.5	3	6.3	3	18.3		4	154.1
Glabron	4577					3	12.8	3	7.1	3	16.5		3	116.7
Spartan	5027					3	5.6	3	12.9	3	21.0		3	126.6

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> Yields were calculated to 15 percent of hull.

## OKLAHOMA

OKLAHOMA AGRICULTURAL COLLEGE, STILLWATER

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Yields from four stations in Oklahoma are reported in table 22. At Stillwater, Ardmore, and Carrier the results were obtained from nursery rows. At Lawton the varieties were tested in field plots.

As a whole, the experiments have been carried on too short a time to obtain significant results. Oklahoma is on the border line where both spring and winter types can be grown; the seasonal fluctuations must favor first one, then another. A longer period of testing is needed here than in most localities. In the tests so far some varieties of all types have done well. The winter varieties are apparently the most dependable. Varieties of the north-African group have done well only at Ardmore. Several of the smooth-awned hybrids are promising although, with the exception of Hero, they have been included for very brief periods. Hero and Vaughn have made the best showing to date.

Fall-sown barley should be in the ground by October 15. A desirable rate for fall seeding is 2 bushels per acre. Spring seeding should be done between February 10 and March 10. The rate of seeding increases from west to east. In western Oklahoma 5 pecks per acre is sufficient, while 8 pecks may be seeded on the better lands where the rainfall is heavier.

TABLE 22.—Acre yields of varieties of barley grown at the Oklahoma Agricultural Experiment Station, Stillwater; at Ardmore and Carrier; and at the United States Dry Land Field Station, Lawton, in 1 or more of the years 1927-31

[Data for Stillwater, Ardmore, and Carrier obtained through the courtesy of the Oklahoma Agricultural Experiment Station. The average yield of center rows from quadruplicate nursery plots were taken as the basis for these data. Data for Lawton were obtained through the courtesy of the Division of Dry Land Agriculture]

Variety	C.I. no.	Stillwater										Ardmore						Carrier							
		Number of plots and acre yield										Compa- rable years and yield in com- parison with standard variety named	Number of plots and acre yield					Compa- rable years and yield in com- parison with standard variety named	Number of plots and acre yield (1931)		Number of years grown and yield in compari- son with standard variety for com- parable years				
		1927		1928		1929		1930		1931			Average yield, 1927-31	1930		1931							Average yield, 1927-31		
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			Plots	Yield	Plots	Yield							Plots	Yield
			Bu.		Bu.		Bu.		Bu.		Bu.		Pct.		Bu.		Bu.		Bu.		Pct.		Bu.		Pct.
Black Arabian	202		4	28.3	4	2.5						2	55.8												
Greece	221		4	21.1	4	1.2						2	40.4												
Tenkow	646		4	36.5	4	33.1	4	11.4	4	13.6	23.7	4	135.9	4	21.1	4	21.8	21.5	2	122.9	4	46.9	1	93.4	
Caliph	983		4	28.5	4	2.3						2	55.8												
Khayyam	1117		4	22.6	4	2.5						2	45.5												
Black Egyptian	1246		4	31.8	4	23.9	4	13.6	4	13.6	20.7	4	119.1	4	15.6	4	19.5	17.6	2	100.6	4	35.5	1	70.7	
Syria	1259		4	26.5	4	5.3						2	57.6												
Manchuria	354		4	39.0	4	32.5						2	129.5	4	19.7				1	151.5					
Italiani 52			4	18.0	4	15.4	4	2.3				3	58.4	4	14.4				2	89.7					
Italiani 16-6684			4	29.6	4	12.8	4	6.1				3	79.4	4	15.6	4	16.9	15.7	2	120.0	4	37.0	1	73.7	
Italiani 62-6681			4	24.9	4	12.5	4	4.8	4	11.2	13.4	4	76.7	4	14.9	4	15.8	15.4	2	88.0	4	37.2	1	74.1	
Italiani 55-6678			4	25.4	4	15.5	4	2.5	4	8.6	13.0	4	74.7	4	13.7	4	18.6	16.2	2	92.6	4	42.0	1	83.7	
Italiani 7368-4			4	33.5	4	22.2	4	9.5				3	106.7	4	12.9				1	99.2	4	40.0	1	79.7	
Italiani 7368-55			4	25.6	4	14.1	4	7.2	4	7.0	13.5	4	77.4	4	10.7	4	14.4	12.6	2	71.9	4	19.3	1	38.4	
Italiani 7368-53			4	29.0	4	17.1	4	6.2	4	8.6	15.2	4	87.5	4	12.7	4	11.8	12.3	2	70.2	4	19.2	1	38.2	
Italiani 7368-21			4	32.4	4	21.7	4	14.6				3	112.4	4	16.1				1	123.8	4	32.3	1	64.3	
Italiani 7368-27			4	24.6	4	15.7	4	7.9	4	5.5	13.4	4	77.2	4	14.5	4	14.9	14.7	2	84.2	4	36.1	1	71.9	
Italiani 7368-62			4	29.9	4	14.9	4	6.2	4	6.1	14.3	4	82.0	4	14.3	4	18.2	16.3	2	93.1	4	22.4	1	44.6	
Italiani 7368-84			4	27.9	4	12.5	4	7.7	4	6.3	13.6	4	78.2	4	14.0	4	16.0	15.0	2	86.0	4	16.0	1	31.9	
Italiani 7368-76			4	29.4	4	17.6	4	5.3	4	8.1	15.1	4	86.8	4	15.9	4	16.2	16.1	2	92.0	4	22.1	1	44.0	
White Smyrna	195		4	29.3	4	16.9	4	11.7	4	13.7	17.9	4	102.9		20.4				1	93.2	4	41.6	1	82.9	
Manchuria	245		4	35.9	4	14.3	4	10.9	4	7.0	17.0	4	97.8		17.9	4	19.3	18.6	2	106.6	4	45.8	1	91.2	

Wisconsin Winter	519	---	---	4	36.0	4	15.2	4	12.5	4	15.0	19.7	4	113.1	4	17.4	4	25.5	21.5	2	122.9	4	40.9	1	81.5
Cape	557	---	---	4	33.1	4	11.3	4	2.8	4	8.6	14.0	4	80.2	4	12.4	---	---	---	1	95.4	4	26.6	1	53.0
Gatami	575	---	---	4	41.4	4	16.3	4	9.3	4	11.2	19.6	4	112.4	4	10.5	4	19.8	15.2	2	86.8	4	---	---	---
Famesh	616	---	---	4	31.8	4	14.0	4	12.3	4	7.5	16.4	4	94.3	4	1.9	---	---	---	1	14.6	4	---	---	---
Coast	626	---	---	4	25.0	4	17.0	4	4.1	4	8.1	13.6	4	77.9	4	15.1	4	20.5	17.8	2	102.0	4	47.4	1	94.4
Tenkow	646	---	---	4	34.6	4	19.3	4	9.6	4	9.1	18.2	4	104.3	4	15.1	4	26.1	20.6	2	118.1	4	48.8	1	97.2
Arlington Awnless	702	---	---	4	30.5	4	12.3	---	---	4	5.3	---	3	75.5	4	5.6	---	---	---	1	43.1	4	---	---	---
Blackhull	878	---	---	4	20.9	4	22.5	4	5.3	4	8.8	14.4	4	82.6	4	18.0	4	14.6	16.3	2	93.4	4	32.5	1	64.7
Nekludow	1000	---	---	4	36.6	4	16.2	4	9.5	4	9.4	17.9	4	103.0	4	7.9	4	20.5	14.2	2	81.4	4	38.2	1	76.1
Cape	1026	---	---	4	27.0	4	11.2	4	2.9	4	7.5	12.2	4	69.8	4	10.5	4	25.9	18.2	2	104.3	4	---	---	---
Tripoli	1115	---	---	4	22.9	4	14.9	4	9.3	4	12.1	14.8	4	85.1	4	11.4	4	18.4	14.9	2	85.4	4	24.7	1	49.2
Featherston	1120	---	---	4	39.1	4	21.6	4	6.9	4	11.2	19.7	4	113.2	4	12.5	4	15.1	13.8	2	79.1	4	25.9	1	51.6
Peruvian	1131	---	---	4	27.9	4	23.2	4	7.5	4	9.6	17.1	4	98.0	4	7.6	4	26.7	17.2	2	98.3	4	41.9	1	83.5
Entresol	1261	---	---	4	45.1	4	17.5	4	4.5	4	11.5	19.7	4	112.9	4	12.5	4	22.9	17.7	2	101.4	4	38.5	1	76.7
Hero	1286	---	---	4	39.8	4	17.6	4	10.5	4	16.9	21.2	4	121.8	4	10.1	4	26.7	18.4	2	105.4	4	44.8	1	89.2
Heron	1299	---	---	4	31.3	4	22.6	4	9.8	4	7.7	17.9	4	102.6	4	12.7	4	25.1	18.9	2	108.3	4	32.6	1	64.9
Turkistan Winter	711	---	---	4	33.4	4	21.1	4	2.8	4	13.1	17.6	4	101.1	4	15.7	4	29.4	22.6	2	129.2	4	58.3	1	116.1
Italiani 7308-68	---	---	---	4	29.6	4	16.9	4	5.3	4	5.3	14.3	4	82.0	4	13.6	4	15.7	14.7	2	84.0	4	20.4	1	40.6
Black Smyrna	---	---	---	4	32.9	4	16.6	4	11.6	4	12.1	18.3	4	105.2	4	16.7	4	17.6	17.2	2	98.3	4	34.2	1	68.1
Hankow	191	---	---	4	26.5	4	4.9	4	7.7	4	8.6	11.9	4	68.5	---	---	---	---	---	---	---	---	---	---	---
Olonets	198	---	---	4	32.3	4	17.6	4	7.6	4	4.9	15.6	4	89.7	4	15.6	4	12.2	13.9	2	79.7	4	21.6	1	43.0
Greece	221	---	---	4	16.9	4	1.1	---	---	4	---	---	2	32.6	---	---	---	---	---	---	---	---	---	---	---
Finland	581	---	---	4	35.4	4	29.0	4	3.4	4	8.4	19.1	4	109.5	4	14.9	4	11.5	13.2	2	75.6	4	31.1	1	62.0
Poda	652	---	---	4	31.1	4	17.0	4	6.9	4	9.1	16.0	4	92.1	4	20.9	4	26.1	23.5	2	134.7	4	41.2	1	82.1
Black Algerian	708	---	---	4	34.5	4	16.8	4	17.8	4	12.8	20.5	4	117.7	4	11.0	4	14.5	12.8	2	73.1	4	37.6	1	74.9
Turkistan	712	---	---	4	44.4	4	5.2	---	---	4	---	---	2	89.9	4	10.6	---	---	---	1	81.5	4	---	---	---
White Gatami	920	---	---	4	44.4	4	16.8	4	11.5	4	11.1	21.0	4	120.4	4	15.4	4	17.8	16.6	2	95.1	4	25.1	1	50.0
Petro	994	---	---	4	27.0	4	19.3	4	11.3	4	6.8	16.1	4	92.5	4	15.3	4	19.5	17.4	2	99.7	4	39.3	1	78.3
Abacus	1088	---	---	4	27.0	4	8.7	---	---	4	---	---	2	64.7	4	2.6	---	---	---	1	20.0	4	---	---	---
Calotte	1102	---	---	4	44.4	4	23.5	4	6.9	4	5.5	20.1	4	115.4	4	21.4	4	18.0	19.7	2	112.9	4	29.7	1	59.2
Julica	1114	---	---	4	27.9	4	20.1	4	2.1	4	9.2	14.8	4	85.2	4	14.3	4	27.1	20.7	2	118.6	4	44.5	1	88.6
Corbel	1113	---	---	4	32.3	4	12.6	4	7.1	4	9.9	15.5	4	88.9	4	10.6	4	18.1	14.4	2	82.2	4	23.4	1	46.6
Zond	1138	---	---	4	30.8	4	15.2	4	12.0	4	9.2	16.8	4	96.6	4	12.9	4	24.5	18.7	2	107.2	4	40.6	1	80.9
Cromlech	1215	---	---	4	35.4	4	18.2	4	3.3	4	9.2	16.5	4	95.0	4	12.5	4	22.1	17.3	2	99.1	4	45.6	1	90.8
Turbat	1254	---	---	4	33.8	4	9.6	4	7.2	4	9.6	15.1	4	86.5	4	6.9	4	19.3	13.1	2	75.1	4	26.1	1	52.0
Arequipa <sup>1</sup>	1256	---	---	4	37.0	4	18.2	4	5.9	4	8.5	17.4	4	100.0	4	13.0	4	21.9	17.5	2	100.0	4	50.2	1	100.0
Theodore	1300	---	---	4	27.0	4	19.8	4	12.1	4	9.5	17.1	4	98.3	4	11.4	4	18.1	14.8	2	84.5	4	36.4	1	72.5
Limerick	1302	---	---	4	25.8	4	28.1	4	16.9	4	13.6	21.1	4	121.3	4	14.1	4	19.9	17.0	2	97.4	4	34.7	1	69.1
Phoebe	1305	---	---	4	27.3	4	23.7	4	11.4	4	9.8	18.1	4	103.7	4	11.1	4	11.7	11.4	2	65.3	4	37.2	1	74.1
Peru	707	---	---	---	---	---	---	4	8.8	---	---	---	1	149.2	---	---	---	---	---	---	---	---	---	---	---
Vaughn	1367	---	---	---	---	---	---	4	16.3	4	12.3	---	2	198.6	4	15.0	4	15.3	15.2	2	286.8	4	43.6	1	86.9
Horn	926	---	---	---	---	---	---	4	5.0	4	18.0	---	2	159.7	4	9.8	4	12.3	11.1	2	63.3	4	26.1	1	52.0
Trebi	936	---	---	---	---	---	---	4	12.1	4	6.9	---	2	131.9	4	22.0	4	14.3	18.2	2	104.0	4	41.2	1	82.1
Blackhull	878	---	---	---	---	---	---	4	8.0	4	8.8	---	2	116.7	4	11.8	4	21.8	16.8	2	96.3	4	31.7	1	63.1
Svansota	1907	---	---	---	---	---	---	4	1.6	4	14.3	---	2	110.4	4	2.6	---	---	---	1	20.0	---	---	---	---
Stavropol	2103	---	---	---	---	---	---	4	3.7	4	13.1	---	2	116.7	4	15.3	4	33.4	24.4	2	139.5	4	---	---	---
Club Mariout	261	---	---	---	---	---	---	4	16.9	4	9.5	---	2	183.3	4	12.8	4	25.5	19.2	2	109.7	4	39.2	1	78.1
Lion (2238)	923	---	---	---	---	---	---	4	20.3	---	---	---	1	344.1	---	---	---	---	---	---	---	---	---	---	---
Flynn	1311	---	---	---	---	---	---	4	14.9	4	12.5	---	2	190.3	---	---	---	---	---	1	101.4	4	44.8	1	89.2
Winter Club	592	---	---	---	---	---	---	4	8.0	---	---	---	1	135.6	---	---	---	---	---	---	---	---	---	---	---

<sup>1</sup>Standard variety with which others are compared.

TABLE 22.—*Acre yields of varieties of barley grown at the Oklahoma Agricultural Experiment Station, Stillwater; at Ardmore and Carrier; and at the United States Dry Land Field Station, Lawton, in 1 or more of the years 1927-31—Continued*

Variety	C.I. no.	Stillwater										Ardmore					Carrier			
		Number of plots and acre yield										Number of plots and acre yield					Number of plots and acre yield (1931)		Number of years grown and yield in comparison with standard variety for comparable years	
		1927		1928		1929		1930		1931		1930		1931		Average yield, 1927-31	Comparable years and yield in comparison with standard variety named		Years	Yield
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		Years	Yield		
		Bu.		Bu.		Bu.		Bu.		Bu.		Bu.		Bu.			No.	Pct.		Pct.
Odessa.....	182							4	8.1	4	10.6			4	24.0		1	109.6		
White Smyrna.....	910							4	8.1	4	10.4			4	25.0		1	114.2		
Sandrel.....	937							4	8.6	4	10.5			4	29.0		1	132.4	4	48.7
Meloy.....	1176							4	4.3	4	7.3						2	80.6		
Coast.....	690							4	9.0	4	11.3			4	28.4		1	129.7		
Velvet.....	4252							4	4.6	4	8.0						2	87.5		
Manchuria.....	2330							4	6.2	4	10.7						2	117.4		
		Lawton																		
Tennessee Winter.....		1	29.7	1	15.6	2	18.6	2	0.0								4	97.9		
Tennessee Winter (Selection 66).....	3546	1	31.8	1	14.8	2	16.9			3	56.7						4	102.1		
Han River <sup>1</sup> .....	206	1	34.4	1	16.9	2	14.0	2	.0	3	52.4						5	100.0		
Pidor.....	901	1	36.5	1	15.6	2	12.8	2	.0	3	51.4						5	98.8		
Orel.....	351	1	34.9	1	.0	2	19.0	2	.0	3	36.7						5	77.0		
Wisconsin Winter.....	519			2	15.9	4	16.6	14	.0	6	50.4						4	99.5		

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> Seedings were made on 7 dates.



## OREGON

D. D. HILL, *associate agronomist, Oregon State Agricultural College, Corvallis*, and D. E. STEPHENS, *superintendent, Sherman County Branch Station, Moro*

The stations from which results are reported in table 23 represent several distinct areas in Oregon. At all stations Trebi is a good variety. It is probably the most satisfactory variety in the section represented by Pendleton and Union. While Trebi produced the highest yield at Moro for the 5-year period, its 10-year average yield is less than that of Club Mariout. Flynn (C.I. 5911) appears to be nearly equal in yield and possesses other desirable qualities. O.A.C. No. 7 (C.I. 2814) and selections from this variety have proved to be very good yielders in both western and eastern Oregon. On bottom land and for winter seeding they excel in western Oregon. Hannchen is a good variety for spring sowing at Corvallis.

In the Pendleton area Trébi is recommended for spring seeding and Winter Club (Utah Winter) for fall seeding. Flynn fits into conditions around Moro, although other varieties may produce equal yields. In western Oregon, O.A.C. No. 7 is recommended for fall seeding, for early spring seeding, and for sowing on bottom land. Selections 1 (C.I. 5953) and 6 (C.I. 5954) from O.A.C. No. 7 are more winter hardy and are more desirable for fall seeding. Hannchen is the best barley for medium and late spring seeding, especially on upland. Ben Beardless is useful on rich soil, as it has a stiff straw.

In western Oregon barley should be sown from October 10 to October 30 for fall seeding and from April 1 to April 30 for spring seeding. The best rate is 100 to 110 pounds per acre. Around Pendleton the preferred seeding date is between March 1 and 15. Seeding on the drier lands should be done as early in the spring as soil conditions permit. Rates of seeding vary in eastern Oregon, being as high as 2¼ bushels in the sections of greatest rainfall and less in the drier areas.

TABLE 23.—Acre yields of varieties of barley grown at the Oregon Agricultural Experiment Station, Corvallis; at the Sherman County Branch Station, Moro; at the Eastern Oregon Branch Station, Union; at the Harney Valley Branch Station, Burns; and at the Pendleton Field Station in 1 or more of the years 1927-31

[Data for Corvallis, Union, and Burns furnished through the courtesy of the Oregon Agricultural Experiment Station; those for Moro and Pendleton obtained in cooperation with the station]

Station and variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
												Average yield, 1927-31		
Corvallis:														
Grown on upland:														
Spring barleys:														
Hannchen <sup>1</sup>	531	7	Bu. 35.7	7	Bu. 29.8	7	Bu. 24.0	7	Bu. 44.7	4	Bu. 42.0	Bu. 35.2	5	Pct. 100.0
O.A.C. No. 7	2814	3	28.1	3	26.1	3	18.0	3	46.7		40.3	31.8	5	90.4
Peruvian	935	3	28.2	3	28.1	3	18.9	3	41.1	3	36.1	30.5	5	86.5
Trebi	936	3	28.2	3	24.2	3	15.8	3	38.2		33.3	27.9	5	79.3
Ben Beardless	4687			3	23.0	3	22.1	3	46.7		40.5		4	94.2
Atlas	4115			3	22.1	3	16.7						2	72.1
Advance Pedigree	5991			3	22.3	3	27.3	3	36.0				3	86.9
Faust (Montana 1573)	4579			3	23.3	3	19.1	3	17.4				3	60.7
Coast	690			3	26.0								1	87.2
Flynn	1311			3	20.1								1	67.4
Success	4685			3	27.5								1	92.3
Meloy	1176					3	18.3						1	78.3
Arequipa	1256					3	11.1						1	46.3
Blue Hull-less	5990							3	35.0		24.4		2	68.5
Victory	5077									3	45.7		1	108.8
Grown on bottom land:														
Spring barleys:														
Hannchen <sup>1</sup>	531	3	65.4	3	36.1	3	33.3	3	30.4			41.3	4	100.0
O.A.C. No. 7	2814	3	68.1	3	36.9	3	37.3	3	35.7			44.5	4	107.7
Ben Beardless	4687	1	66.7	3	32.3	3	39.4	3	35.0			43.4	4	105.0
Trebi	936			3	34.6	2	35.2	3	33.1				3	103.1
Peruvian	935			3	23.9	3	36.5	3	33.6				3	94.2
Winter barleys:														
O.A.C. No. 7 <sup>1</sup>	2814			4	60.8	7	63.4	7	.0	7	35.3	39.9	4	100.0
O.A.C. No. 7, Selection 1	5953			1	55.8	3	52.8	3	26.3	3	23.0	39.5	4	99.0
O.A.C. No. 7, Selection 2				2	62.9	3	58.3	3	.0				3	97.6
O.A.C. No. 7, Selection 4				2	60.8	3	56.1	3	.0				3	94.1
O.A.C. No. 7, Selection 6	5954			1	71.7	3	78.3	3	20.0	3	26.8	49.2	4	123.4
Pidor	901			1	54.2	3	66.8	3	21.7	3	26.3	42.3	4	106.0
Alaska	4106			1	58.1	3	66.0	3	30.0	3	23.6	44.4	4	111.4
Orel	351			1	54.2	3	55.0	3	21.7	3	24.3	38.8	4	97.3
Wisconsin Winter	2159			1	60.0	3	59.6	3	18.6	3	28.3	41.6	4	104.4
Tennessee Winter	257			1	46.5	3	61.5	3	19.2	3	26.6	38.5	4	96.4
Tennessee Winter Selection	5955			1	57.5	3	61.8	3	25.0	3	25.8	42.5	4	106.6
Winter Club	592			2	46.2	3	76.9	3	31.7	3	16.4	42.8	4	107.3
Moro:														
Club Mariout <sup>1</sup>	261	3	44.4	3	43.9	3	30.0	4	38.4	3	27.6	36.9	5	100.0
Coast	2301	3	40.5	3	38.3								2	89.2
Peru	2302	3	39.5	3	43.5								2	94.0
Meloy Selection 3	4656	3	37.7	3	43.3	3	26.4	4	37.3	3	26.2	34.2	5	92.7
Peruvian	935	3	38.7	3	47.8	3	32.5	4	40.2	3	29.2	37.7	5	102.2
Trebi	936	3	48.9	3	38.1	3	34.9	4	41.5	3	25.8	37.8	5	102.7
Flynn	1311	3	45.8										1	103.2
Arequipa	1256	3	43.8	3	42.6	3	30.0	4	38.6	3	27.4	36.5	5	99.0
Coast (170 B)	4117	3	38.3										1	86.3
Flynn Selection 1	5911	1	68.8	3	43.0	3	31.5	4	37.5	3	27.5		4	90.7
Pryor	1429	1	31.3	3	40.0	3	24.3	4	37.0	3	23.5		4	89.2
Chevalier	1419	1	56.3	3	40.1	3	21.7	4	36.9	3	22.8		4	86.8
Pryor	2359	1	31.3	3	40.5	3	27.5	4	37.7				3	94.1
Atlas (276 B)	4115			3	40.0	3	28.5	4	37.4	3	23.6		4	92.1

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> Grown in small increase plots, not comparable, and therefore not included in average.

TABLE 23.—*Acre yields of varieties of barley grown at the Oregon Agricultural Experiment Station, Corvallis; at the Sherman County Branch Station, Moro; at the Eastern Oregon Branch Station, Union; at the Harney Valley Branch Station, Burns; and at the Pendleton Field Station in 1 or more of the years 1927-31—Continued*

Station and variety	C. I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931		Average yield, 1927-31	Years	Yield
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Union:			Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Trebi <sup>1</sup> .....	936	2	105.4	4	30.2	4	53.3	4	67.2	4	34.4	58.1	5	100.0
Odessa.....	182	2	89.2	4	31.8	4	48.6	4	56.5	4	37.5	52.7	5	90.7
White Smyrna.....	658	2	88.2	4	27.4	4	53.9	4	50.3	4	35.4	51.0	5	87.8
Hannchen.....	531	2	78.2	4	30.8	4	48.2	4	54.5	4	38.8	50.1	5	86.2
Blue.....	1247	2	93.0	4	30.5	4	59.9	4	60.7	4	38.0	56.4	5	97.1
Coast.....	2301	2	97.3	4	30.7	4	50.7	4	58.3	4	39.1	55.2	5	95.0
Peruvian.....	935	2	97.7	4	25.5	4	52.2	4	50.0	4	33.3	51.7	5	89.1
Winter Club.....	592	2	96.5	4	26.3	4	45.3	4	56.3	4	37.0	52.3	5	90.0
Beardless 3.....	5992	2	77.6	4	27.1	4	57.7	4	58.6	4	38.8	52.0	5	89.4
Union Beardless.....	5976	2	61.7	4	23.7	4	44.9	4	73.5	4	49.0	50.6	5	87.0
B×Blue B.....	5993	2	88.6	4	25.8	4	49.7	4	54.7	4	34.9	50.7	5	87.3
Meloy.....	1176	2	83.8	4	26.8	4	42.6	4	51.3	4	37.0	48.3	5	83.1
Blue×B-A.....	4675	2	60.0	4	25.0	4	41.9	4	53.1	4	39.6	43.9	5	75.6
B×White Club C.....	5994	2	74.0	4	19.0	4	32.0	4	53.2	4	29.4	41.5	5	71.5
Black No. 6.....	5995	2	66.9	4	16.4	4	44.2	4	46.6	4	23.2	39.5	5	67.9
Unnamed (39-1).....	5996	2	83.0	4	16.2	4	35.2	4	40.1	4	26.6	40.2	5	69.2
Nepal.....	595	2	68.8	4	21.6	4	35.3	4	32.1	4	21.9	35.9	5	61.9
Faust (Montana 1573).....	4579	2	58.2	4	21.6	4	---	4	---	4	---	---	2	58.8
O. A. C. No. 7.....	2814	---	---	4	25.8	4	63.5	4	50.0	4	37.0	---	4	95.2
Steigum.....	907	---	---	4	23.4	4	44.5	4	44.5	4	34.1	---	4	79.1
Lion.....	923	---	---	4	27.6	4	42.6	4	39.1	4	30.2	---	4	75.4
Svansota.....	1907	---	---	---	---	---	32.9	4	46.1	4	31.3	---	3	71.2
Velvet.....	4252	---	---	---	---	4	22.2	4	26.8	4	26.6	---	3	48.8
Ezond.....	5064	---	---	---	---	---	---	4	51.9	4	34.9	---	2	85.4
Success Beardless.....	5997	---	---	---	---	---	---	4	43.0	4	31.5	---	2	73.3
Burns:														
Trebi <sup>1</sup> .....	936	---	79.7	---	82.7	---	88.9	---	60.7	---	41.6	70.7	5	100.0
Hannchen.....	531	---	73.5	---	88.7	---	88.0	---	53.7	---	---	---	4	97.4
O. A. C. No. 7.....	2814	---	---	---	91.8	---	100.5	---	68.9	---	30.4	---	4	106.5
Pendleton:														
Trebi <sup>1</sup> .....	936	---	---	---	---	3	76.3	3	69.5	3	65.5	70.4	3	100.0
Arequipa.....	1256	---	---	---	---	3	75.3	---	---	3	62.1	---	2	96.9
Peruvian Selection 1.....	5912	---	---	---	---	3	67.4	---	---	3	61.8	---	2	91.1
Meloy.....	1176	---	---	---	---	3	61.5	---	---	3	59.7	---	2	85.5
Flynn Selection 1.....	5911	---	---	---	---	---	---	3	67.2	3	56.8	---	2	91.9
Club Mariout.....	261	---	---	---	---	---	---	---	---	3	52.6	---	1	80.3

<sup>1</sup> Standard variety with which others are compared.

## PENNSYLVANIA

### AGRICULTURAL EXPERIMENT STATION, STATE COLLEGE

CHARLES F. NOLL, *professor of experimental agronomy*

There was little difference in the average yields of the varieties grown at State College, Pa., for the full 5-year period 1927-31 (table 24). Comfort was the leading variety of those grown for the entire period. Two other smooth-awned sorts, Glabron and Velvet, were nearly its equal in yield. Wisconsin Pedigree 38, a new smooth-awned variety, showed much promise for a shorter period, as it has at many places. In the previous 5 years Featherston and Alpha

produced the highest yields. The 10-year average of Alpha is rather high, indicating that 2-rowed barley would be a satisfactory crop in Pennsylvania. This sort, however, is very susceptible to smut.

The experiment station has been recommending Wisconsin Pedigree 5, Comfort, and Velvet, and it has found that early seeding is advisable. The average date of seeding in the vicinity of State College is about April 24. In southeastern Pennsylvania the most favorable time is about 2 weeks earlier than this date, and, in the northern counties, about 2 weeks later. The usual rate of seeding is 2 bushels per acre.

TABLE 24.—*Acre yields of varieties of barley grown at the Pennsylvania Agricultural Experiment Station, State College, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Pennsylvania Agricultural Experiment Station]

Variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931		Average yield, 1927-31	Years	Yield
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Bu.		Bu.		Bu.		Bu.		Bu.			Pct.
Michigan Two-Row	2782	2	47.5	2	22.0	2	18.9	2	44.1	2	25.1	29.2	4	103.7
Wisconsin Pedigree 5	1272	2	37.9	2	30.0	2	20.2	2	32.9	2	25.1	29.2	5	921.0
Oderbrucker	836	2	41.7	2	26.2	2	23.5	2	31.4	2	24.1	29.4	5	93.4
Featherston	1120	2	38.5	2	23.6	2	20.5	2	31.7	2	24.1	29.4	4	89.4
Alpha	959	2	46.0	2	20.5	2	21.2	2	39.5	2	23.6	30.2	5	95.9
Glabron	4577	2	37.0	2	22.2	2	22.8	2	41.5	2	27.2	30.1	5	95.8
Comfort <sup>1</sup>	4578	2	36.5	2	22.4	2	26.4	2	42.5	2	29.5	31.5	5	100.0
Velvet	4252	2	37.3	2	21.5	2	25.1	2	38.7	2	29.3	30.4	5	96.6
Swiss Spring	5900	2	32.3	2	25.8	2	23.7	2	37.3	2	29.1	29.6	5	94.2
Spartan	5027	2	32.3	2	18.1	2	20.1	2	35.7	2	29.1	29.6	3	80.9
Wisconsin Pedigree 38	5105	2	32.3	2	25.8	2	23.7	2	37.3	2	29.1	29.6	2	117.8

<sup>1</sup> Standard variety with which others are compared.

#### SOUTH CAROLINA

AGRICULTURAL EXPERIMENT STATION, CLEMSON COLLEGE

W. B. ROGERS, *assistant agronomist*

Hooded and awnless varieties are popular with farmers in the Southeastern States. As shown in table 25, the farmer must sacrifice a certain part of his yield in exercising this preference. The best of the nonbearded sorts, according to these tests, is South Carolina 206C. The Tennessee hooded varieties are well suited to conditions and are extensively grown in South Carolina. Tennessee Beardless, one of the Tennessee hooded barleys, and Tennessee Winter (Winter Bearded) are the varieties usually recommended. The latter also is recommended for pasture and winter grazing where the residue is to be turned under for some other crop. October is the most favorable month for seeding, and 1½ to 2 bushels per acre is the best rate of seeding.

TABLE 25.—Acre yields of varieties of barley grown at the South Carolina Agricultural Experiment Station, Clemson College, in 1 or more of the years 1927-31

[Data obtained through the courtesy of the South Carolina Agricultural Experiment Station]

Variety	C.I. no.	South Carolina no.	Number of plots and acre yield <sup>1</sup>								Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
												Years	Yield
Winter Bearded.....			10	Bu. 39.4	10	21.4	10	28.2	12	79.4	42.1	4	Pct. 124.5
Awnless <sup>2</sup> .....	4693	206C	10	22.9	10	30.4	10	29.2	12	52.8	33.8	4	100.0
Do.....	4694	206L	10	18.5	10	28.0	10	27.2	9	34.6	27.1	4	80.0
Hooded.....	5956	188	10	17.9	10	15.5	10	36.8	13	32.8	25.8	4	76.1
Tennessee Beardless.....			10	23.1	10	14.6	10	17.6	13	25.2	20.1	4	59.5
Kirkland Beardless.....	5957						10	17.1	13	36.7		2	65.6
Wood Beardless (hooded).....									12	38.8		1	73.5

<sup>1</sup> No yields were recorded for 1928, as the crop was destroyed by hail.<sup>2</sup> Standard variety with which others are compared.

## SOUTH DAKOTA

## STATE COLLEGE OF AGRICULTURE, BROOKINGS

K. H. KLAGES, *associate agronomist in charge of cereal breeding*, and A. N. HUME, *agronomist*

While many of the varieties reported in table 26 have produced good yields at Brookings, S.Dak., the standard variety is Odessa. This variety has given a consistent performance over a long period and should not be displaced until it is fully evident that some other variety is really better. The results at Redfield have been carried on for too short a time to be conclusive, but they indicate a transition toward Highmore conditions where two-rowed varieties and the smooth-awned hybrids are high-yielding sorts. The two-rowed varieties have also produced high yields at Ardmore. The zero yields at Highmore and Ardmore in 1931 were due to drought augmented by grasshoppers. At Newell the only varieties that produced yields at all comparable with those of Trebi were White Smyrna and Chevalier. The yields from Trebi exceeded each of these in 4 years out of 5. Vaughn and the hybrids  $\times 239$  and  $\times 241$  were badly injured by spring frosts at Redfield in 1931.

Odessa is recommended for the eastern part of the State, and Horn, Ace, and Lion  $\times$  Manchuria for the central area. Trebi should be grown under irrigation in the western portion.

Barley should be seeded early. Sowings later than April 15 are likely to result in reduced yield. It is recommended that 6 pecks per acre be sown in the eastern part of the State. A rate of 5 pecks per acre is sufficient in the central and western section except under irrigation, when 8 pecks should be used.

TABLE 26.—*Acre yields of varieties of barley grown at the South Dakota Agricultural Experiment Station, Brookings; at the Eureka and Highmore substations; the United States Dry Land Field Station, Ardmore; the Belle Fourche Field Station, Newell; and in the United States cereal field experiments at Redfield, in 1 or more of the years 1927-31*

Data for Brookings, Eureka, and Highmore obtained through the courtesy of the South Dakota Agricultural Experiment Station; for Ardmore, through the courtesy of the Division of Dry Land Agriculture; for Newell, through the courtesy of the Division of Western Irrigation Agriculture; and for Redfield, in cooperation with the station and the Division of Forage Crops and Diseases]

Station and variety	C. I. no.	South Dakota no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
<b>Brookings:</b>															
Odessa <sup>1</sup> .....	182	182	3	Bu. 68.8	3	Bu. 56.3	3	Bu. 42.7	3	Bu. 40.7	3	Bu. 9.8	5	Pct. 100.0	
Oderbrucker.....	1529	1180	3	53.5	3	47.9	3	38.1	3	29.8	3	3.8	5	79.3	
Manchuria.....	643	105	3	54.1	3	52.6	3	25.0	3	30.5	---	---	4	77.8	
Improved Manchuria.....	2330	1338	3	53.1	3	52.6	3	36.5	3	32.5	---	---	4	83.8	
White Gatami.....	920	889	3	58.3	3	47.9	3	45.4	3	44.6	3	10.0	5	94.5	
Black Gatami.....	575	122	3	54.1	3	41.7	3	41.2	3	42.7	---	---	4	86.2	
White Smyrna.....	195	28	3	53.1	3	43.8	3	29.7	3	30.9	---	---	4	75.5	
Horsford.....	507	294	3	33.3	3	40.7	3	5.8	3	29.6	---	---	4	52.5	
Gold.....	1145	460	3	50.1	3	52.6	3	22.9	3	34.6	---	---	4	76.8	
Nepal.....	262	262	3	42.7	3	43.3	3	21.9	3	27.3	---	---	4	64.8	
Poppenheim.....	314	442	3	32.2	3	36.0	3	13.0	3	27.5	---	---	4	52.1	
Minsturdi.....	1556	1245	3	47.9	3	46.9	3	40.6	3	37.1	3	8.8	5	83.1	
Ace.....	1853	1173	3	59.0	3	40.7	3	28.2	3	34.6	3	9.7	5	78.9	
July.....	1563	1270	3	54.1	3	51.1	3	37.0	3	29.2	---	---	4	82.2	
Glabron.....	4577	1292	3	62.5	3	52.6	3	31.8	3	41.5	3	6.7	5	89.4	
Comfort.....	4578	1304	3	70.8	3	52.1	3	35.0	3	34.0	---	---	4	92.0	
Lion×Coast.....	---	1342	3	67.7	3	64.6	3	35.4	3	30.4	---	---	4	95.0	
Velvet.....	4252	1286	3	51.0	3	50.7	3	33.9	3	35.4	---	---	4	82.0	
Lion×Manchuria.....	6001	1340	3	56.2	3	50.6	3	48.0	3	40.5	3	10.6	5	94.3	
Svansota.....	1907	1285	3	47.9	3	48.5	3	26.1	3	31.5	---	---	4	73.9	
Bon Ami.....	4664	1300	3	67.7	3	63.6	3	47.4	3	39.0	---	---	4	104.4	
Sandrel.....	937	1301	3	68.8	3	62.5	3	41.7	3	40.4	---	---	4	102.4	
Horn.....	926	1299	3	65.6	3	69.3	3	36.5	3	33.8	3	4.6	5	96.1	
Trobi.....	936	1298	3	69.8	3	69.3	3	28.7	3	34.4	3	9.7	5	97.1	
White Smyrna×Svanhals.....	---	1344	3	59.4	3	57.3	3	39.1	3	37.3	---	---	4	92.6	
Featherston.....	911	1306	3	57.5	3	62.1	3	30.8	3	35.0	---	---	4	88.9	
Hero.....	1286	1303	3	63.5	3	43.3	3	27.1	3	50.0	---	---	4	88.2	
Alpha.....	959	1305	3	54.2	3	66.2	3	25.0	3	31.7	---	---	4	84.9	
(Success×Gatami)× (Arlington Awnless× Hanna).....	---	1360	3	38.5	3	37.0	3	32.9	3	29.8	---	---	4	66.3	
New Era.....	5108	1355	---	---	---	---	---	---	3	27.9	3	3.1	2	61.4	
Coast×Lion.....	6002	1343	---	---	---	---	---	---	---	---	3	7.7	1	78.6	
Binder.....	1909	1269	---	---	---	---	---	---	---	---	3	1.0	1	10.2	
Hannchen.....	531	20	---	---	---	---	---	---	---	---	3	.7	1	7.1	
<b>Eureka:</b>															
Velvet.....	4252	1286	3	54.5	---	( <sup>2</sup> )	3	17.3	3	21.5	---	---	3	104.1	
White Smyrna×Svanhals.....	---	1344	3	60.0	---	---	3	14.3	3	17.0	---	---	3	101.9	
Odessa <sup>1</sup> .....	182	182	3	49.6	---	---	3	15.7	3	24.3	3	16.3	4	100.0	
Lion×Coast.....	---	1342	3	52.1	---	---	3	13.3	3	18.2	---	---	3	93.3	
Glabron.....	4577	1290	---	---	---	---	---	---	---	---	3	13.5	1	82.8	
Lion×Manchuria.....	6001	1340	---	---	---	---	---	---	---	---	3	15.3	1	93.9	
Horn.....	926	1299	---	---	---	---	---	---	---	---	3	14.3	1	87.7	
Coast×Lion.....	6002	1343	---	---	---	---	---	---	---	---	3	14.6	1	89.6	
Binder.....	1909	1269	---	---	---	---	---	---	---	---	3	14.2	1	87.1	
Hannchen.....	531	20	---	---	---	---	---	---	---	---	3	10.8	1	66.3	
<b>Highmore:</b>															
Odessa <sup>1</sup> .....	182	182	3	36.7	3	6.4	3	28.9	3	22.3	3	.9	5	100.0	
Coast.....	690	126	3	41.3	3	6.8	3	32.6	3	23.9	---	---	4	110.9	
Manchuria.....	643	105	3	40.2	3	8.6	3	29.5	3	21.5	---	---	4	105.8	
White Smyrna.....	195	28	3	35.0	3	2.1	3	33.9	3	18.8	---	---	4	95.2	

<sup>1</sup> Standard variety with which others are compared.

<sup>2</sup> No yields are reported for 1928 at Eureka, as hail destroyed the crop.

TABLE 26.—Acre yields of varieties of barley grown at the South Dakota Agricultural Experiment Station, Brookings; at the Eureka and Highmore substations; the United States Dry Land Field Station, Ardmore; the Belle Fourche Field Station, Newell; and in the United States cereal field experiments at Redfield, in 1 or more of the years 1927-31—Continued

Station and variety	C.I. no.	South Dakota no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield	
<b>Highmore—Continued.</b>															
Horsford.....	507	294	3	Bu. 31.0	3	Bu. 8.6	3	Bu. 19.8	3	Bu. 18.3		Bu.	Bu.	4	82.4
Poppenheim.....	314	442	3	31.4	3	5.7	3	18.2	3	17.6				4	66.7
Oderbrucker.....	1529	1180	3	41.1	3	9.4	3	28.1	3	21.7		0	20.1	5	105.4
Minsturdi.....	1556	1245	3	40.5	3	7.2	3	27.1	3	23.9		2.2	20.2	5	106.0
July.....	1563	1270	3	39.6	3	6.7	3	36.5	3	18.7				4	107.6
Binder.....	1909	1269	3	43.3	3	11.1	3	24.7	3	22.3		5	20.4	5	107.0
Lion×Manchuria.....	6001	1340	3	41.8	3	6.0	3	39.1	3	28.0		2.1	23.4	5	122.9
White Smyrna×Svanhals.....	1344	1344	3	38.6	3	1.5	3	35.9	3	25.3				4	107.4
Coast×Lion.....	6002	1343	3	46.5	3	4.9	3	29.2	3	28.2		2.2	22.2	5	116.6
Lion×Coast.....	1342	1342	3	45.0	3	11.4	3	29.2	3	17.7				4	109.5
Do.....	1341	1341	3	45.8	3	9.4	3	19.8	3	21.1				4	101.9
Rex.....	1388	1268	3	38.4	3	5.4	3	21.1	3	13.0				4	82.6
Gold×Nepal.....	1345	1345	3	36.5	3	9.0	3	16.4	3	12.5				4	78.9
Nepal×Manchuria.....	1339	1287	3	28.7	3	5.8	3	17.4	3	12.7				4	68.5
Ace.....	1853	1173	3	39.2	3	2.8	3	39.1	3	23.8	3	2.3	21.4	5	112.6
Svansota.....	1907	1285	3	44.1	3	6.8	3	33.6	3	19.5				4	110.3
Velvet.....	4252	1286	3	47.5	3	10.2	3	21.9	3	26.3				4	112.3
Glabron.....	4577	1292			3	12.7	3	24.3	3	29.3	3	1.6		4	116.1
Horn.....	926	1299			3	12.5	3	27.4	3	25.6	3	0		4	112.0
Comfort.....	4578	1304			3	11.3	3	23.4	3	26.9				3	106.9
Trebi.....	936	1298			3	8.9	3	18.8	3	23.3	3	1.2		4	89.2
White Gatami.....	920	889										2.6		1	288.9
Hannchen.....	531	20										0		1	
New Era.....	5108	1355										0		1	
Spartan.....	5027	1352										3.0		1	333.3
<b>Ardmore:</b>															
Odessa <sup>1</sup> .....	182		3	73.3	3	20.5	3	4.2	3	16.9	3	2.8	23.5	5	100.0
Hannchen.....	531		3	64.9	3	17.7	3	3.5	3	3.1	3	0	17.8	5	75.8
White Gatami.....	920		3	49.0	3	17.0	3	11.1						3	78.7
Horsford.....	507		3	52.4	3	16.3	3	6.9	3	15.1				4	78.9
White Smyrna.....	658		3	67.0	3	25.4	3	18.4	3	24.1	3	0	27.0	5	114.6
Coast.....	690		3	50.0	3	21.2	3	17.0	3	17.0	3	0	21.0	5	89.4
Horn.....	926		3	76.0	3	25.7	3	12.5	3	10.7	3	2.1	25.4	5	107.9
Trebi.....	936		3	68.1	3	19.4	3	12.9	3	16.3	3	2.8	23.9	5	101.5
Ace.....	1853				3	24.7	3	17.7	3	26.8	3	5.2		4	167.6
Vaughn.....	1367						3	11.5	3	25.3	3	5.2		3	175.7
Glabron.....	4577						3	10.1	3	13.9	3	2.8		3	112.1
Charlottetown 80.....	2732						3	9.4	3	1.9				2	53.6
Velvet.....	4252								3	7.8	3	1.0		2	44.7
Vance.....	4585										3	4.9		1	175.0
Dryland.....	5673										3	1.0		1	35.7
New Era.....	5108										3	1.7		1	60.7
<b>Newell:</b>															
Trebi <sup>1</sup> .....	936		3	30.9	3	54.9	3	49.5	3	81.7	3	27.1	48.8	5	100.0
Coast.....	690		3	26.0	3	41.7	3	33.3	3	68.7				4	78.2
Hannchen.....	531		3	24.0	3	42.4	3	46.9	3	52.0	3	17.4	36.5	5	74.8
Chevalier II.....	200		3	41.0	3	50.4	3	49.3	3	57.3	3	20.8	43.8	5	89.6
Minsturdi.....	1556		3	27.4	3	34.4	3	43.1	3	49.4				4	71.1
Luth.....	908		3	19.8	3	36.6	3	41.7	3	60.4				4	73.0
White Smyrna.....	195		3	30.2	3	52.1	3	42.7	3	73.4	3	30.9	45.9	5	93.9
Horsford.....	507		3	16.3	3	27.6	3	33.3	3	40.6				4	54.3
Nepal.....	595		3	16.0	3	26.0	3	35.8	3	41.7				4	55.1
Comfort.....	4578								3	57.8	3	7.6		2	60.1
Velvet.....	4252								3	44.2	3	5.9		2	46.0
New Era (×240).....	5108										2	13.0		1	48.0
×239.....	5674										3	9.0		1	33.2
×241.....	5675										3	9.4		1	34.7

<sup>1</sup> Standard variety with which others are compared.

<sup>2</sup> Velvet barley was sown 2 weeks later than other varieties because of late arrival of seed. This probably reduced its yield.

TABLE 26.—*Acre yields of varieties of barley grown at the South Dakota Agricultural Experiment Station, Brookings; at the Eureka and Highmore substations; the United States Dry Land Field Station, Ardmore; the Belle Fourche Field Station, Newell; and in the United States cereal field experiments at Redfield, in 1 or more of the years 1927-31—Continued*

Station and variety	C.I. no.	South Dakota no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years			
			1927		1928		1929		1930		1931				Average yield, 1927-31	
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield				
														Years	Yield	
Redfield:																
Hannchen.....	531															Pct.
Svanhals.....	187															57.3
Nepal.....	262															48.9
Wing Pedigree.....	1177															64.3
Trebi.....	936															75.2
Oderbrucker.....	1174															96.6
Manchuria.....	244															37.8
New Era (X240).....	5108															85.0
Odessa 1.....	182															92.5
Dryland.....	5673															100.0
White Smyrna.....	658															121.2
Vaughn.....	5461															123.6
New Composite Cross.....	4577															140.5
Glabron.....	4252															92.0
Velvet.....	5676															95.3
X244.....	5674															76.9
X239.....	5675															47.2
X241.....																73.5
																65.7

<sup>1</sup> Standard variety with which others are compared.

## TENNESSEE

### AGRICULTURAL EXPERIMENT STATION, KNOXVILLE

C. A. MOOERS, *Director*

Yields were secured in only 4 of the 5 years, 1927-31, at Knoxville, Tenn. (table 27). The entire crop winter-killed in 1928. The highest yield was obtained from Tennessee Winter Selection 52, which is similar to Union Winter in appearance. Union Winter has long been a standard variety and is still recommended for growing. Many farmers, however, prefer the hooded varieties, Tennessee Beardless 5 and Tennessee Beardless 6.

Barley should be seeded the latter part of September or early October. A seeding rate of 8 pecks per acre is recommended. Under favorable conditions slightly less seed might be used for Union or Tennessee Winter, but not for the hooded varieties.



TABLE 27.—*Acre yields of varieties of barley grown at the Tennessee Agricultural Experiment Station, Knoxville, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Tennessee Agricultural Experiment Station]

Variety	C.I. no.	Number of plots and acre yield <sup>1</sup>								Average yield, 1927-31	Number of years grown and yield in comparison with standard variety for comparable years	
		1927		1929		1930		1931			Years	Yield
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Bu.		Bu.		Bu.		Bu.	Bu.		Percent
Union Winter <sup>1</sup> .....	583	2	35.2	2	30.0	2	6.4	5	56.6	25.6	5	100.0
Beardless 5.....	3384	2	25.3	2	25.8	2	1.3	5	40.5	18.6	5	72.5
Nakano Wase.....	754	2	22.9								1	65.1
Tennessee Winter Se- lection 52.....	3543	2	37.3	2	30.0	2	15.6	5	57.3	28.0	5	109.4
Tennessee Winter Selec- tion 66.....	3546	2	31.3	2	25.7						3	87.4
Wisconsin Winter.....	2159	2	33.9	2	25.8						3	91.6
Orel.....	351	2	27.9	2	8.9						3	56.4

<sup>1</sup> The 1928 crop was winter-killed.<sup>2</sup> Standard variety with which others are compared.

## TEXAS

P. C. MANGELSDORF, *agronomist, Texas Agricultural Experiment Station, College Station*, and P. B. DUNKLE, *Superintendent, substation no. 6, Denton*

Barley is not an important crop in Texas, and the available information on it is rather fragmentary. From table 28 it appears that barleys of the Tennessee Winter group are more dependable than any others at Denton, but winter-killing was experienced in 1927, 1928, and 1929, and there was a total loss of the crop in 1928. At San Antonio the consistently superior yields of Vaughn are encouraging. On the basis of experiments at Denton and of data supplied through the courtesy of the station at San Antonio, Finley or strains of Tennessee Winter are recommended for northeastern Texas, and Vaughn is recommended for sections to the west.

Winter seeding from November to January is recommended for the San Antonio section. For the Denton section of northern Texas, winter barley should be sown from October 1 to 20 and spring barley about the first of February. Spring varieties, and not winter types, should be used for spring seedings. For western Texas spring barley is preferred. In the Panhandle most of the barley is sown about February 15. Winter barley is grown to some extent along the Oklahoma border, but it frequently winter-kills in the Panhandle. The rate of 2 bushels per acre is suggested for northeastern Texas, while 6 pecks is sufficient for most of the areas to the west.

TABLE 28.—*Acre yields of varieties of barley grown at Denton, Tex., substation no. 6, and at the United States San Antonio Field Station in one or more of the years 1927-31*

[Data for Denton obtained through the courtesy of the Texas Agricultural Experiment Station and for San Antonio through the courtesy of the Division of Western Irrigation Agriculture]

Station and variety	Station no.	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years			
			1927		1928		1929		1930		1931				Average Yield, 1927-31	
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield				
			Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Years	Yield				
Denton:																
Finley (local)		5901														
Coast	15829	690														
Tennessee Winter	15841	257														
Stavropol	15828	2103														
Atlas 1	15840	4118														
Club Mariout	15842	261														
Vaughn	15830	1367														
Bailey		5902						38.3								
Tennessee Winter Selection 643-33			2	31.6	3	1.0		30.5								
Tennessee Winter Selection 643-0		5914	2	35.6	3	1.0		30.8								
Spring barley	7368-4							20.4								
Do	7368-2							12.8								
Italian	6681			1.0		1.0		17.6								
San Antonio:																
Hannchen	3162	531	1	14.4	3	15.1	3	17.8	3	1.0	3	52.7	20.0	5	80.7	
Orel	3148	351	1	5.3	3	6.0								2	39.2	
Wisconsin Winter	3149	2159	1	1.6	3	6.0	3	15.4						3	51.8	
Tennessee Winter	3150	3543	1	.9	3	6.8	3	14.4						3	49.8	
Do	3151	3546	1	1.9	3	9.7	3	14.7						3	59.2	
Texas Winter 1	3152	554	1	19.7	3	9.1	6	15.6	3	11.1	3	68.4	24.8	5	100.0	
Stavropol	3161	2103	1	13.8	3	7.5	3	18.3						3	89.2	
Vaughn	3403	1367					3	22.7	3	11.3	3	91.2		3	131.7	
Trebi	3405	936					3	8.3	3	9.3	3	54.6		3	75.9	

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> Zero yields due to winter-killing.

## UTAH

## AGRICULTURAL EXPERIMENT STATION, LOGAN

R. J. EVANS, *professor of agronomy*

Limited data are available from Utah for the 5-year period reported in table 29. Trebi is the standard variety of the irrigated sections of the State, and it will be noted that its yield in the nursery was significantly exceeded by no other variety for the 5 years. In general, the other high-yielding sorts are of north African origin. Sacramento and Algerian showed promise in the 2 years grown. Trebi is recommended for the irrigated lands. It should be seeded in April at the rate of 2 bushels per acre.

## NEPHI SUBSTATION, NEPHI

A. F. BRACKEN, *Superintendent*

Variety tests have not been conducted in recent years at Nephi, but experience covering many years has shown Bulgarian to be the best of the many tried. Bulgarian is a winter variety and should be seeded in September at the rate of 7 pecks per acre.

TABLE 29.—Acre yields of varieties of barley grown at the Agricultural Experiment Station, Logan, Utah, in 1 or more of the years 1927-31

[Data obtained through the courtesy of the Utah Agricultural Experiment Station. These results are based on replicated nursery rows]

Variety	C.I. no.	Colorado no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.	Bu.			
Atlas.....	4118	----	4	92.4	4	89.4	4	59.0	4	91.2	4	66.0	79.6	5	101.8
Coast.....	690	----	4	81.7	4	88.4	4	59.2	4	83.6	4	62.5	71.1	5	90.9
Colless.....	2792	----	4	75.6	4	71.3	4	62.2	4	66.6	4	66.4	68.4	5	87.5
Trebi <sup>1</sup> .....	936	----	4	87.9	4	87.9	4	63.3	4	88.1	4	63.9	78.2	5	100.0
Unnamed.....	3063	----	4	80.9	4	84.5	4	63.3	4	96.6	4	69.5	79.0	5	100.9
Do.....	3064	----	4	82.9	4	80.0	4	60.8	4	94.3	4	59.3	75.5	5	96.5
Do.....	3066	----	4	81.1	4	79.3	4	53.2	4	82.7	4	56.3	70.5	5	90.2
Do.....	3070	----	4	83.2	4	69.2	4	54.3	4	76.2	4	57.8	68.1	5	87.1
Do.....	3080	----	4	67.5	4	76.5	4	59.4	4	99.6	4	58.3	72.3	5	92.4
Do.....	3086	----	4	71.7	4	76.5	4	57.9	4	77.0	4	59.4	68.5	5	87.6
Do.....	3124	----	4	73.0	4	74.0	4	59.8	4	82.0	4	61.8	70.1	5	89.6
Do.....	3127	----	4	75.3	4	83.0	4	63.0	4	93.9	4	58.4	74.7	5	95.5
Do.....	3135	----	4	75.9	4	72.1	4	60.7	4	86.6	4	62.1	71.5	5	91.4
Do.....	3154	----	4	88.1	4	84.6	4	65.6	4	99.0	4	60.6	79.6	5	101.7
Do.....	3168	----	4	86.6	4	77.3	4	58.2	4	90.4	4	57.0	73.9	5	94.5
Do.....	3178	----	4	65.9	4	81.1	4	50.2	4	86.4	4	62.0	69.1	5	88.4
Do.....	3192	----	4	88.0	4	88.5	4	52.0	4	89.0	4	59.9	75.5	5	96.5
Do.....	3195	----	4	67.9	4	67.8	4	58.1	4	83.6	4	59.8	67.4	5	86.2
Do.....	3216	----	4	88.1	4	74.9	4	61.2	4	104.4	4	62.8	78.3	5	100.1
Do.....	3116	----	4	82.5	4	56.8	4	82.5	4	87.7	4	59.9	72.1	5	91.4
Han River.....	206	----	4	87.7	4	80.5	4	54.4	4	80.5	4	54.4	54.4	2	88.8
White Smyrna.....	910	----	4	106.0	4	106.0	4	60.8	4	106.0	4	60.8	60.8	2	109.7
Algerian.....	1179	----	4	70.3	4	70.3	4	39.3	4	70.3	4	39.3	39.3	2	72.1
Golden Pheasant.....	2488	----	4	82.1	4	82.1	4	65.1	4	82.1	4	65.1	65.1	2	96.8
Bonfari <sup>1</sup> .....	3393	----	4	98.4	4	98.4	4	60.4	4	98.4	4	60.4	60.4	2	104.5
Harlan 81A.....	3625	----	4	100.2	4	100.2	4	56.0	4	100.2	4	56.0	56.0	2	102.8
Baker.....	975	----	4	83.6	4	83.6	4	62.8	4	83.6	4	62.8	62.8	2	96.3
Scarab.....	995	----	4	89.1	4	89.1	4	57.8	4	89.1	4	57.8	57.8	2	96.6
Arequipa.....	1256	----	4	82.6	4	82.6	4	63.9	4	82.6	4	63.9	63.9	2	96.4
Beldi Giant.....	2777	----	4	52.0	4	52.0	4	45.9	4	52.0	4	45.9	45.9	2	64.4
Molu.....	3210-2	----	4	52.7	4	52.7	4	50.4	4	52.7	4	50.4	50.4	2	67.8
Do.....	3210-4	----	4	88.4	4	88.4	4	61.1	4	88.4	4	61.1	61.1	2	98.4
Rhodesia.....	3339	----	4	94.2	4	94.2	4	64.6	4	94.2	4	64.6	64.6	2	104.5
Carre 48.....	3388	----	4	84.5	4	84.5	4	52.3	4	84.5	4	52.3	52.3	2	90.0
Abyssinia.....	3906-3	----	4	58.5	4	58.5	4	51.3	4	58.5	4	51.3	51.3	2	72.2
Ankoher.....	3914-3	----	4	55.8	4	55.8	4	46.3	4	55.8	4	46.3	46.3	2	67.2
Abyssinia.....	3918-1	----	4	55.0	4	55.0	4	53.3	4	55.0	4	53.3	53.3	2	71.3
Makfud.....	3921-2	----	4	68.6	4	68.6	4	52.5	4	68.6	4	52.5	52.5	2	79.7
Indian.....	3934	----	4	71.8	4	71.8	4	59.3	4	71.8	4	59.3	59.3	2	86.3
Erivan.....	4091	----	4	61.0	4	61.0	4	58.6	4	61.0	4	58.6	58.6	2	78.7
Khuram.....	4148-2	----	4	78.7	4	78.7	4	61.0	4	78.7	4	61.0	61.0	2	91.9
Sebzavar.....	4156-2	----	4	46.7	4	46.7	4	51.5	4	46.7	4	51.5	51.5	2	64.6
Bokhara.....	4162	----	4	46.4	4	46.4	4	58.0	4	46.4	4	58.0	58.0	2	68.7
China.....	4206-1	----	4	79.8	4	79.8	4	60.2	4	79.8	4	60.2	60.2	2	92.1
Tachira 2.....	4208	----	4	59.1	4	59.1	4	50.8	4	59.1	4	50.8	50.8	2	72.3
Abyssinia.....	4221	----	4	72.8	4	72.8	4	56.0	4	72.8	4	56.0	56.0	2	84.7
Chili.....	4223-1	----	4	64.4	4	64.4	4	55.5	4	64.4	4	55.5	55.5	2	78.9
Abyssinia.....	4225-2	----	4	60.8	4	60.8	4	54.6	4	60.8	4	54.6	54.6	2	75.9
Do.....	5021	----	4	84.2	4	84.2	4	50.0	4	84.2	4	50.0	50.0	2	88.3
India.....	5023	----	4	56.4	4	56.4	4	51.8	4	56.4	4	51.8	51.8	2	71.2
Abyssinia.....	5022	----	4	90.2	4	90.2	4	65.3	4	90.2	4	65.3	65.3	2	102.3
Peru.....	707	----	4	111.0	4	111.0	4	59.8	4	111.0	4	59.8	59.8	2	112.4
Sacramento.....	4108	----	4	61.3	4	61.3	4	59.8	4	61.3	4	59.8	59.8	1	95.9
Lyallpur E.....	3403	----	4	58.6	4	58.6	4	39.5	4	58.6	4	39.5	39.5	1	91.7
Club Mariout.....	261	----	4	63.3	4	63.3	4	55.4	4	63.3	4	55.4	55.4	1	99.1
Invincible.....	590	----	4	55.4	4	55.4	4	50.8	4	55.4	4	50.8	50.8	1	86.7
Hero.....	1286	----	4	50.8	4	50.8	4	50.8	4	50.8	4	50.8	50.8	1	79.5
Vaughn.....	1367	----	4	50.8	4	50.8	4	50.8	4	50.8	4	50.8	50.8	1	79.5
Modjo.....	3212-2	----	4	50.8	4	50.8	4	50.8	4	50.8	4	50.8	50.8	1	79.5

<sup>1</sup> Standard variety with which others are compared.

## VIRGINIA

## ARLINGTON EXPERIMENT FARM, ROSSLYN

During the 5 years 1927-31 Esaw was the leading variety at the Arlington Experiment Farm, and, as may be seen in table 30, one of the Tennessee Winter Selections (C.I. 3534) exceeded and another (C.I. 3545) equaled Wisconsin Winter (C.I. 2159) in yield. Wisconsin Winter, however, is a dependable variety with a long performance record behind it. Wisconsin Winter and Esaw are recommended for seeding on farms in the Potomac area. Tennessee Winter, likewise, has some market qualities that make it desirable, and it is a logical selection where a kernel similar to Manchuria is desired. In 1930, yields were materially reduced by drought, and in 1931 there was a crop failure due to the severe drought.

Barley should be seeded before the end of September, the best rate being 2 bushels per acre.

TABLE 30.—*Acre yields of varieties of barley grown at the Arlington Experiment Farm, Rosslyn, Va., in 1 or more of the years 1927-31*

Variety	C.I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years	
		1927		1928		1929		1930		1931 <sup>1</sup>			
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield		
		Average yield, 1927-31										Years	Yield
Wisconsin Winter <sup>2</sup> .....	2159	12	Bu. 34.3	11	Bu. 30.2	6	Bu. 51.0	9	Bu. 15.3	Bu. 0	Bu. 26.2	5	Pct. 100.0
Tennessee Winter.....	257	2	33.0	2	30.0	1	44.2	1	16.3	0	24.7	5	94.4
Tenkow.....	646	2	34.7	2	26.0	1	46.7	1	14.2	0	24.3	5	93.0
Scottish Pearl.....	277	2	35.2	2	27.3	1	47.1	2	18.1	0	25.5	5	97.6
Pidor.....	901	2	29.7	2	24.8	1	34.0	2	15.4	0	20.8	5	79.4
Orel.....	351	2	31.2	2	16.5	1	36.5	2	14.0	0	19.6	5	75.1
Han River.....	2163	2	24.5	2	29.6	1	36.9	2	21.1	0	22.4	5	85.7
Wisconsin Winter.....	2167	2	22.2	2	29.4	1	40.7	2	23.3	0	23.1	5	88.4
Nakano Wase.....	754	2	5.4	2	19.6	1	47.3	1	4.8	0	15.4	5	58.9
Do.....	2166	2	2.6									1	7.6
Tennessee Winter Selection 52.....	3543	2	15.1	2	28.2	1	31.3	1	20.0	0	18.9	5	72.3
Alaska.....	4106	2	30.8	2	32.6	1	37.8	2	24.5	0	25.1	5	96.1
Tennessee Winter Selection 66.....	3546	2	35.2	2	28.2	1	37.5	2	21.0	0	24.4	5	93.2
Tennessee Winter Selection 61.....	3545	2	35.7	2	29.6	1	45.3	2	20.6	0	26.2	5	100.3
Tennessee Winter Selection 12.....	3534	2	42.0	2	30.0	1	51.5	2	17.9	0	28.3	5	108.1
Mechanical Mixture.....	4115	2	25.3	2	29.2	1	61.1	1	14.4	0	26.0	5	99.4
Composite Cross.....	4116	2	22.4	2	21.9	1	49.2	1	21.3	0	23.0	5	87.8
Tennessee Beardless 5.....	3384	2	32.5	2	32.3	1	26.3					3	78.9
Tennessee Beardless 6.....	2746	2	34.9	2	32.3	1	23.3	1	13.8	0	20.9	5	79.7
Esaw (754-A).....	4690	2	56.5	2	34.1	1	65.0	2	21.6	0	35.4	5	135.5
Trebi.....	936					1	21.3	1	3.2			2	37.0
New Composite Cross (spring).....	5461							1	8.8	0		2	57.5
Composite Cross (winter).....	5530							1	11.1	0		2	72.5

<sup>1</sup> Zero yields due to drought.

<sup>2</sup> Standard variety with which others are compared.

## WASHINGTON

## AGRICULTURAL EXPERIMENT STATION, PULLMAN

E. G. SCHAFER, agronomist

The results at Pullman, Wash., are in accord with those previously reported. As may be seen in table 31, Beldi Giant, Blue, and Trebi are the leading spring varieties and are satisfactory in the Palouse

region. Winter Club has long been recognized as the most dependable winter variety, and it is recommended for fall seeding.

The same three spring varieties have produced the highest yields at Prosser. In order of importance at this place, however, they are Trebi, Beldi Giant, and Blue.

At Lind the four varieties tested did not differ greatly in yield. Beldi Giant, however, proved to be the best of the four.

Barley should be sown as early in the spring as conditions permit. On the drier lands of the Big Bend country, sowing should be done in March or early April. In the better-watered parts of the Palouse, April is the most satisfactory sowing time for spring barleys, while winter barley, in the more favorable areas, should usually be sown during the latter part of September. Rates of seeding vary from 5 pecks on the drier soils to 8 pecks on the best of the Palouse.

TABLE 31.—*Acre yields of varieties of barley grown at the Washington Agricultural Experiment Station, Pullman; at the Irrigation Branch Station, Prosser; and at the Adams Branch Experiment Station, Lind, Wash., in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Washington Agricultural Experiment Station]

Station and variety	C. I. no.	Washington no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
			Years	Yield											
<b>Pullman:</b>															
Spring-sown:															
Beldi Giant.....	2777	967	4	Bu. 72.2	4	Bu. 66.9	4	Bu. 66.1	4	Bu. 64.9	4	Bu. 52.1	Bu. 64.4	5	102.2
Blue.....	1247	973	4	65.7	4	66.0	4	71.7	4	64.9	4	62.4	66.1	5	104.9
Eureka.....	1250	958	4	43.8	4	52.4	4	50.6	4	40.0	4	44.9	46.3	5	73.5
Colsees.....	2792	2410	4	38.0	4	39.3	4	51.1	4	47.8	4	56.9	46.6	5	73.9
Horsford.....	1775	873	4	52.3	4	58.8	4	64.7	4	50.7	4	48.6	55.0	5	87.2
Trebi <sup>1</sup> .....	936	1776	4	58.0	4	67.6	4	70.7	4	65.6	4	53.5	63.1	5	100.0
Mechanical Mixture.....	4115	2485	4	60.0	4	53.2	4	62.0	4	50.5	4	68.5	58.8	5	93.3
New Composite Cross (spring).....	5461								4	44.3	4	52.2		2	81.0
Fall-sown:															
Winter Club.....	592	957	4	52.9	4	48.2	4	57.7	4	67.3	4	56.0	56.4	5	89.4
Wisconsin Winter.....	519	971	4	55.7	4	48.6	4	44.2	4	64.4	4	50.6	52.7	5	83.5
<b>Prosser:</b>															
Blue <sup>1</sup> .....	1247	973		50.6		50.0		46.6		39.6		55.0	48.4	5	100.0
Beldi Giant.....	2777	967		47.9		45.0		51.9		42.1				4	100.1
Horsford.....	1775	873		43.3		42.7		44.1		31.7				4	86.6
Trebi.....	936	1176		60.4		46.0		52.2		41.2				4	107.0
Mariout.....		2571		46.7										1	92.3
Do.....		2572		44.6										1	88.1
<b>Lind:</b>															
Beldi Giant <sup>1</sup> .....	2777	967		15.8		26.6		11.4		3.5		5.6	12.6	5	100.0
Flynn.....	1311			13.7		26.2		9.4		4.6		5.8	11.9	5	94.9
Meloy.....	1176	1343		16.2		25.8		12.2		3.5		3.9	12.1	5	96.3
California.....	1279	959		14.1		23.7		13.1		1.9		4.5	11.5	5	91.1

<sup>1</sup> Standard variety with which others are compared.

## WEST VIRGINIA

## AGRICULTURAL EXPERIMENT STATION, MORGANTOWN

R. J. GABER, head, *Department of Agronomy*

The yields of barley in West Virginia reported in table 32 have almost the same relationship as those obtained in the previous 5-year period. This means that Alpha has a clear record of superiority over a period of 10 years and is recommended.

Seeding should be done early in April. Six pecks ordinarily furnish sufficient seed for 1 acre. Since Alpha has larger seed than six-rowed varieties, an additional peck is desirable when growing this variety.

TABLE 32.—*Acre yields of varieties of barley grown at the West Virginia Agricultural Experiment Station, Morgantown, in some or all of the years 1927–31*

[Data obtained through the courtesy of the West Virginia Agricultural Experiment Station]

Variety	C. I. no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
		1927		1928		1929		1930		1931				Average yield, 1927-31
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield
			Bu.		Bu.		Bu.		Bu.		Bu.	Bu.		Pct.
Manchuria.....	244	4	44.8	4	19.5	4	39.9	4	37.7	4	39.0	36.2	5	90.9
Chevalier.....	278	4	32.5	4	13.2	4	45.4	4	48.8	4	38.8	35.7	5	89.8
Alpha <sup>1</sup> .....	959	4	43.9	4	21.6	4	51.0	4	40.9	4	41.6	39.8	5	100.0
Featherston.....	1120	4	34.9	4	21.0	4	38.9	4	36.0	4	24.1	31.0	5	77.8
Oderbrucker.....	1174	4	35.5	4	23.2	4	37.8	4	40.4	4	35.2	34.4	5	86.5
Himalaya.....	620	4	23.2										1	52.8
Nepal.....	262	4	17.2										1	39.2
Wisconsin Pedigree.....	835	4	33.6	4	20.9	4	35.2	4	38.3	4	35.6	32.7	5	82.2
Wisconsin Pedigree 38.....	5105									4	37.9		1	91.1

<sup>1</sup> Standard variety with which others are compared.

## WISCONSIN

## UNIVERSITY OF WISCONSIN, MADISON

B. D. LEITH, *professor of agronomy, College of Agriculture*

Plot tests at Madison, Wis., during the 5 years 1927–31 have been devoted largely to the evaluation of smooth-awned varieties. The yields shown in table 33, together with the experiences of farmers, have led officials of the Experiment Station to recommend Wisconsin Pedigree 38. This variety, in addition to its smooth awns, is recommended because of its resistance to stripe and because it is less affected by scab than Oderbrucker.

Barley is usually sown in Wisconsin immediately after the sowing of wheat and oats. This varies from April 1 to May 7, but the average date is about the third week in April. The common rate of seeding is 2 bushels per acre, but 1½ bushels is the rate recommended for Wisconsin Pedigree 38.

TABLE 33.—Acre yields of varieties of barley grown at the Wisconsin Agricultural Experiment Station, Madison, in 1 or more of the years 1927-31

[Data obtained through the courtesy of the Wisconsin Agricultural Experiment Station]

Variety	C.I. no.	Wisconsin no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield	
Oderbrucker	4666	Pedigree 5-1	1	Bu. 37.7	1	Bu. 49.0	1	Bu. 29.5	1	Bu. 46.1	1	Bu. 39.5	Bu. 40.4	5	Pct. 97.1
Smooth White	4659	×39-2	1	53.8	1	40.3								2	105.8
Do	4660	×39-9	1	53.1										1	112.0
Wisconsin Pedigree 37 <sup>1</sup>	5028	Pedigree 37	1	47.2	1	41.7	1	43.7	1	40.7	1	34.6	41.6	5	100.0
Korsbyg	918	97-3	1	41.9										1	88.8
July	1563		1	41.4										1	87.7
Colless	2792		1	34.5										1	73.1
Short-Awned	4661	×10-6-4-1	1	29.1										1	61.7
Comfort	4578		1	42.6	1	47.8	1	42.7	1	45.4	1	34.8	42.7	5	102.6
Velvet	4252		1	42.5	1	49.5	1	37.5	1	38.6	1	34.0	40.4	5	97.2
Glabron	4577		1	40.6	1	54.2	1	33.4	1	47.3	1	45.8	44.3	5	106.4
Wisconsin Hybrid	5944	×39-9-3-4			1	67.2	1	44.1	1	46.7	1	36.2		4	120.8
Wisconsin Pedigree 38	5105	Pedigree 38			1	52.2	1	47.7	1	45.5	1	37.8		4	114.0
Wisconsin Hybrid	5945	×57-12-4-13			1	42.9	1	47.4	1	59.1	1	34.4		4	114.4
Trebi	936						1	28.3		34.2	1	34.2		3	81.3
Alpha	959								1	40.1	1	37.2		2	102.7
Spartan	5027								1	38.2	1	37.6		2	100.7
Manchurian	5946	116									1	34.5		1	99.7

<sup>1</sup> Varieties were grown in single plots, with every other plot through the field a check, and the yields were corrected to the behavior of the check.<sup>2</sup> Standard variety with which others are compared.

## WYOMING

## AGRICULTURAL EXPERIMENT STATION, LARAMIE

GLENN HARTMAN, associate agronomist

The varietal yields from Wyoming reported in table 34 are closely in accord with those published in 1929. Trebi and Coast are again the leading varieties at Archer and Sheridan. For irrigated conditions the results at Laramie indicate that Horn, Charlottetown 80, and Trebi are satisfactory varieties. While the yield from Odessa was rather high, it is not recommended at this time, due to its tendency to shatter under arid conditions and also to the fact that Laramie is the point farthest west where high yields have been secured from this variety. Charlottetown 80 was not grown in the previous period, but the other three varieties had already shown promise at Laramie.

On dry lands 5 pecks to the acre, and, under irrigation, 8 pecks, is usually a satisfactory rate of seeding. The best time to seed is from April 15 to May 1. Where grown for grain, Coast and Trebi are recommended for dry land. Where the straw is to be utilized, Horn, Smyrna, and Vaughn are suggested.

TABLE 34.—*Acre yields of varieties of barley grown at the Wyoming Agricultural Experiment Station, Laramie; at the Cheyenne Experiment Farm, Archer; and at the Sheridan Field Station, Sheridan, in 1 or more of the years 1927-31*

[Data for Laramie obtained through the courtesy of the Wyoming Agricultural Experiment Station; for Archer and Sheridan through the courtesy of the Division of Dry Land Agriculture, in cooperation with the station]

Station and variety	C.I. no.	Number of plots and acre yield										Average yield, 1927-31	Number of years grown and yield in compari- son with standard variety for com- parable years		
		1927		1928		1929		1930		1931			Years	Yield	
		Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield				
Laramie (irrigated):			Bu.		Bu.		Bu.		Bu.		Bu.		Bu.		Pct.
O. A. C. 21	1470	1	90.3	1	27.5	1	50.9	1	68.5	1	63.4	60.1	5	81.9	
Charlottetown 80	2732	1	100.2	1	47.9	1	93.1	1	62.0	1	79.9	76.6	5	104.4	
Manchuria		1	80.4	1	28.3	1	53.6	1	83.7				4	80.5	
White Smyrna	658	1	103.2	1	59.9	1	81.7	1	62.6	1	55.5	72.6	5	98.9	
Hannchen	531	1	103.6	1	57.6	1	70.6	1	68.5	1	56.0	71.3	5	97.1	
Trebi <sup>1</sup>	936	5	108.2	4	34.0	6	84.2	6	79.2	6	61.3	73.4	5	100.0	
Coast	690	1	69.9	1	44.6	1	94.8	1	94.2	1	57.3	72.2	5	98.3	
Nepal	595	1	92.7	1	50.2	1	55.5	1	67.6	1	73.5	67.9	5	92.5	
Odessa	182	1	96.6	1	24.6	1	105.8	1	121.1	1	65.6	82.7	5	112.8	
Beldi Giant	2777	1	83.3	1	36.1	1	73.9	1	66.7	1	64.8	65.0	5	88.5	
Colsess	2792	1	72.9	1	13.1	1	56.0	1	57.7	1	58.3	51.6	5	70.3	
Horn	926	1	113.8	1	54.0	1	88.6	1	71.8	1	96.3	84.9	5	115.7	
Atlas	4118							1	43.3	1	32.3		2	53.8	
Glabron	4577									1	66.4		1	108.3	
Archer:															
White Smyrna	658	4	31.9	4	7.3	4	14.7						3	69.4	
Do	910	4	35.0	4	16.5	4	16.8	4	9.1	4	22.4	20.0	5	96.5	
Flynn	1311	4	32.7	4	22.5	4	20.2						3	97.0	
Coast	690	4	35.3	4	18.1	4	21.1	4	14.6	4	17.9	21.4	5	103.5	
Trebi <sup>1</sup>	936	4	37.1	4	18.7	4	21.9	4	9.3	4	16.4	20.7	5	100.0	
Himalaya	620	4	26.3	4	9.5	4	17.0	4	3.8	4	13.8	14.1	5	68.1	
Black Hull-less	1106	4	25.4	4	9.5	4	14.4						3	63.4	
Hannchen	531	4	29.3	4	16.2	4	19.1	4	7.6	4	16.1	17.7	5	85.4	
Franconian	680	4	24.7	4	11.1								2	84.2	
Horn	926	4	32.9	4	16.5	4	18.8	4	8.0	4	12.3	17.7	5	85.6	
Meloy	1176	4	34.3	4	18.7	4	15.1	4	6.1	4	18.0	18.4	5	89.2	
Colsess	2792	4	24.3	4	16.5	4	11.4						3	67.2	
Selection 8-3				2	14.0	3	17.0	4	7.6	4	13.3		4	78.3	
Selection 8-1				2	10.9	4	13.9	4	4.1	4	14.2		4	65.0	
Selection 5				1	7.3	4	12.9	4	7.2	4	16.0		4	65.5	
Selection 3				1	6.7	4	9.7	4	5.0	4	15.0		4	54.9	
Selection 3-1						1	9.6						1	43.8	
Selection 9-1						2	16.1	4	10.7	4	11.1		3	79.6	
Selection 8-2						2	13.3	4	5.7	4	15.1		3	71.6	
Vaughn	1367							4	11.2	4	23.6		2	135.4	
Sheridan:															
White Smyrna	195	3	44.4	3	63.1								2	72.9	
Hannchen	531	3	48.9	3	74.2	3	37.8	3	21.7	3	13.1	39.1	5	77.7	
Svanhals	187	3	57.2	3	76.4	3	36.4	3	20.0	3	16.4	41.3	5	81.9	
Club Mariout	261	3	55.8	3	73.3								2	87.5	
Coast	690	3	51.7	3	84.7	3	46.7	3	35.0	3	13.0	46.2	5	91.7	
Trebi <sup>1</sup>	936	3	61.7	3	85.8	3	46.4	3	40.0	3	18.1	50.4	5	100.0	
Manchuria	244	3	44.4	3	73.0								2	79.6	
Flynn	1311	3	46.7	3	74.4	3	40.8	3	38.9	3	18.6	43.9	5	87.1	
Horn	926	3	61.1	3	79.7	3	44.2	3	36.1	3	12.0	46.6	5	92.5	
Meloy	1176	3	57.8	3	64.7	3	34.1	3	41.4	3	15.3	42.7	5	84.6	
Colsess	2792	3	56.1	3	68.9	3	26.9	3	27.5	3	11.1	38.1	5	75.6	
Nepal	595	3	47.2	3	55.8	3	27.5	3	24.7	3	5.0	32.0	5	63.6	
Faust	4579	3	43.6	3	51.4								2	64.4	
California White Hull-less		3	41.1	3	50.3								2	62.0	
Vaughn	1367					3	34.2	3	36.7	3	20.8		3	87.8	
Glabron	4577					3	34.7	3	35.6	3	15.8		3	82.4	
Velvet	4252					3	39.4	3	21.9	3	12.5		3	70.6	
Charlottetown 80	2732					3	30.6						1	65.9	

<sup>1</sup> Standard variety with which others are compared.



## ALBERTA

## EXPERIMENTAL STATION, LETHBRIDGE

W. H. FAIRFIELD, *Superintendent*

Varieties are tested at Lethbridge, Alberta, under both dry-land and irrigated conditions. The results of these tests are reported in table 35. Of the varieties grown for the full period, Trebi produced the highest yield both on dry land and under irrigation. The two-rowed varieties Hannchen (C.I. 531) and Horn also gave creditable showings under both conditions. Regal was promising for the 2 years that it was grown. Trebi and Hannchen are recommended for this section of Alberta. They should be seeded in April or the early part of May at the rate of 8 pecks per acre on both irrigated and nonirrigated land.

## EXPERIMENTAL STATION, LACOMBE

F. H. REED, *Superintendent*

During the period 1927-31, 27 varieties were tested at Lacombe, Alberta, for 1 or more years (table 35). No yields are reported for 1930. Of the varieties grown for 4 years, Trebi produced by far the highest yield. Hannchen (C.I. 531), a two-rowed variety, was second in yield with an average of 72.3 bushels, as compared with 86 bushels for Trebi. Both of these varieties are recommended for this district. They should be seeded in early May at the rate of 8 pecks per acre.

TABLE 35.—*Acre yields of barley varieties grown at the experimental stations at Lethbridge, Lacombe, Beaverlodge, and Fort Vermilion, Alberta, and at the University of Alberta, Edmonton, in 1 or more of the years 1927-31*

[Data for the first 4 stations were obtained through the courtesy of the Dominion Experimental Farms and for Edmonton through the courtesy of the University of Alberta. Plots consist of blocks of 5-rod rows each, of which the 3 central rows were harvested]

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
<b>Lethbridge:</b>															
Under irrigation:				<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Pct.</i>	
Bark.....	2793	703	4	64.1	4	84.4	4	50.9	4	73.0	4	82.2	70.9	5 96.3	
Bearer (Ottawa 475).....	4707	704	4	56.3	4	63.0	4	79.1	4	81.3	4	96.3	75.2	5 102.1	
Canadian Thorpe.....	740	816	4	56.3	4	88.0	4	82.3	4	70.3	4	78.2	75.0	5 101.9	
Cape.....	557	708	4	65.9	4	40.2	4	75.0	4	94.7	4	106.7	76.5	5 103.9	
Duckbill (Ottawa 57).....	1916	826	4	53.2	4	70.3	4	61.8	4	59.7	4	67.9	62.6	5 85.0	
Gold.....	1145	829	4	55.6	4	---	4	74.3	4	92.1	4	99.7	---	4 105.0	
Hannchen.....	531	837	4	43.5	4	83.1	4	84.2	4	90.7	4	95.1	79.3	5 107.7	
Himalayan (Ottawa 59).....	4838	765	4	57.3	4	55.5	4	65.4	4	89.6	4	90.5	71.7	5 97.3	
Horn.....	926	1078	4	68.5	4	56.3	4	88.7	4	91.6	4	75.3	76.1	5 103.3	
Mensury (Ottawa 60).....	4696	730	4	65.9	4	67.0	4	46.9	4	---	4	---	---	3 83.4	
O.A.C. 21 <sup>1</sup> .....	1470	734	4	80.9	4	61.9	4	72.7	4	86.5	4	66.2	73.6	5 100.0	
O.A.C. 21 (Saskatchewan 228).....	4708	735	4	79.6	4	59.9	4	73.0	4	79.1	4	76.2	73.6	5 99.9	
Star.....	1701	748	4	69.1	4	64.0	4	43.0	4	70.1	4	62.9	61.8	5 83.9	
Trebi.....	936	753	4	76.3	4	62.4	4	78.1	4	109.7	4	91.7	83.6	5 113.6	
Velvet.....	4252	755	4	62.9	4	81.2	4	67.8	4	91.4	4	72.1	75.1	5 102.0	
Plumage Archer.....	5033	806	4	---	4	---	4	67.4	4	91.2	4	78.9	---	3 105.4	
Colsess.....	2792	772	4	---	4	---	4	---	4	91.4	4	83.2	---	2 114.3	
Glabron.....	4577	718	4	---	4	---	4	---	4	96.3	4	93.9	---	2 124.6	
Gordon (Ottawa 55).....	4842	833	4	---	4	---	4	---	4	74.2	4	75.1	---	2 97.8	
Hanna.....	5975	1075	4	---	4	---	4	---	4	100.7	4	99.1	---	2 130.8	
Regal.....	5030	742	4	---	4	---	4	---	4	121.2	4	107.8	---	2 150.0	
White Smyrna.....	195	859	4	---	4	---	4	---	4	---	4	94.1	---	1 142.1	
<b>Dry-land tests:</b>															
Bark.....	2793	703	4	46.0	4	41.8	4	15.8	4	34.3	4	17.5	31.1	5 97.5	
Bearer (Ottawa 475).....	4707	704	4	34.1	4	50.1	4	12.7	4	37.8	4	26.0	32.1	5 100.8	
Canadian Thorpe.....	740	816	4	32.4	4	32.8	4	18.0	4	33.4	4	18.8	27.1	5 84.9	
Cape.....	557	708	4	40.7	4	45.6	4	36.2	4	36.8	4	27.7	37.4	5 117.3	
Duckbill (Ottawa 57).....	1916	826	4	25.1	4	36.2	4	13.8	4	26.2	4	13.8	23.0	5 72.2	
Gold.....	1145	829	4	38.5	4	---	4	27.6	4	35.3	4	32.9	---	4 123.6	
Hannchen.....	531	837	4	40.0	4	57.0	4	32.1	4	42.2	4	37.0	41.7	5 130.7	
Himalayan (Ottawa 59).....	4838	765	4	23.1	4	40.1	4	27.5	4	26.2	4	26.6	28.7	5 90.0	
Horn.....	926	1078	4	50.5	4	45.8	4	31.4	4	39.7	4	39.6	41.4	5 129.9	
Mensury (Ottawa 60).....	4696	730	4	31.0	4	40.5	4	20.6	4	---	4	---	---	3 91.1	
O.A.C. 21 <sup>1</sup> .....	1470	734	4	33.6	4	50.7	4	16.8	4	35.4	4	22.9	31.9	5 100.0	
O.A.C. 21 (Saskatchewan 228).....	4708	735	4	26.9	4	45.0	4	16.0	4	34.7	4	27.3	30.0	5 94.0	
Star.....	1701	748	4	27.1	4	56.0	4	16.3	4	40.7	4	30.6	34.1	5 107.1	
Trebi.....	936	753	4	42.4	4	55.6	4	37.9	4	38.2	4	36.8	42.2	5 132.3	
Velvet.....	4252	755	4	30.5	4	43.6	4	23.2	4	30.1	4	25.8	30.6	5 96.1	
Plumage Archer.....	5033	806	4	---	4	---	4	12.8	4	33.1	4	22.7	---	3 91.3	
Hanna.....	5975	1075	4	---	4	---	4	---	4	42.8	4	41.9	---	2 145.3	
Regal.....	5030	742	4	---	4	---	4	---	4	37.0	4	33.0	---	2 120.1	
Colsess.....	2792	772	4	---	4	---	4	---	4	---	4	30.0	---	1 131.0	
Glabron.....	4577	718	4	---	4	---	4	---	4	---	4	25.6	---	1 111.8	
Gordon (Ottawa 55).....	4842	833	4	---	4	---	4	---	4	---	4	20.3	---	1 88.6	
<b>Lacombe:</b>															
Bark.....	2793	703	4	32.1	4	22.9	4	29.6	4	---	4	66.7	37.8	4 60.1	
Bearer (Ottawa 475).....	4707	704	4	43.7	4	41.8	4	71.2	4	---	4	109.0	66.4	4 105.6	
Canadian Thorpe.....	740	816	4	50.3	4	32.0	4	62.2	4	---	4	118.1	65.7	4 104.3	
Cape.....	557	708	4	87.9	4	39.4	4	48.8	4	---	4	103.0	69.8	4 110.9	
Charlottetown 80.....	2732	817	4	53.4	4	33.5	4	57.4	4	---	4	81.4	56.4	4 89.7	
Duckbill (Ottawa 57).....	1916	826	4	33.3	4	26.4	4	31.4	4	---	4	75.4	41.6	4 66.2	

<sup>1</sup> Standard variety with which others are compared.

TABLE 35.—*Acre yields of barley varieties grown at the experimental stations at Lethbridge, Lacombe, Beaverlodge, and Fort Vermilion, Alberta, and at the University of Alberta, Edmonton, in 1 or more of the years 1927-31—Continued*

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Lacombe—Continued.															
Early Chevalier (Ottawa 51)	2725	821	4	Bu. 55.1	4	Bu. 29.8	4	45.8	—	—	4	67.7	49.6	4	87.8
Eureka	1250	773	4	39.7	4	19.0	4	43.3	—	—	4	76.9	44.7	4	71.1
Gold	1145	829	4	67.1	4	34.0	4	72.5	—	—	4	73.6	61.8	4	98.2
Hannchen	531	837	4	74.0	4	40.1	4	77.2	—	—	4	97.7	72.3	4	114.8
Himalayan (Ottawa 50)	4838	765	4	62.6	4	35.3	4	38.4	—	—	4	87.1	55.9	4	88.8
Manchurian (Ottawa 50)	4832	726	4	64.9	4	39.1	4	43.9	—	—	4	94.6	60.6	4	96.3
Mensury (Ottawa 60)	4696	730	4	71.8	4	37.5	4	58.0	—	—	4	93.7	66.5	4	105.7
O. A. C. 21 <sup>1</sup>	1470	734	4	63.3	4	36.5	4	60.4	—	—	4	91.5	62.9	4	100.0
Star	1701	748	4	61.5	4	42.5	4	62.8	—	—	4	98.8	66.4	4	105.5
Stella (Ottawa 58)	4851	750	4	67.1	4	34.7	4	49.0	—	—	4	100.6	62.9	4	99.9
Success	4840	783	4	63.3	4	23.7	4	26.1	—	—	4	68.1	45.3	4	72.0
Swedish Chevalier	4837	818	4	59.4	4	31.4	4	58.2	—	—	4	88.0	59.3	4	94.2
Trebi	936	753	4	99.5	4	43.6	4	68.7	—	—	4	132.2	86.0	4	136.7
Velvet	4252	755	4	67.0	4	31.5	4	48.0	—	—	4	103.8	62.6	4	99.4
Colless	2792	772	—	—	—	—	4	68.7	—	—	4	85.7	—	2	101.6
Glabron	4577	718	—	—	—	—	4	55.1	—	—	4	94.0	—	2	98.2
Plumage Archer	5033	806	—	—	—	—	4	63.6	—	—	4	59.8	—	2	81.2
Regal	5030	742	—	—	—	—	4	80.4	—	—	4	122.0	—	2	133.2
Binder	4703	810	—	—	—	—	—	—	—	—	4	80.8	—	1	88.3
Gordon (Ottawa 55)	4842	833	—	—	—	—	—	—	—	—	4	77.0	—	1	84.2
Sans Barb	5970	746	—	—	—	—	—	—	—	—	4	130.0	—	1	142.1
Beaverlodge:															
Albert (Ottawa 54)	4852	701	4	31.0	—	—	—	—	4	49.1	4	25.6	—	3	55.1
Bearer (Ottawa 475)	4707	704	4	73.5	4	55.9	4	54.1	4	74.9	4	34.8	58.6	5	102.7
Canadian Thorpe	740	816	4	73.3	4	62.2	4	35.8	4	50.9	4	20.3	48.5	5	84.9
Charlottetown 80	2732	817	4	75.5	4	57.7	4	45.0	4	58.5	4	32.6	53.9	5	94.3
Duckbill (Ottawa 57)	1916	826	4	60.7	4	44.5	4	39.4	4	49.7	4	21.9	43.2	5	75.7
Early Chevalier (Ottawa 51)	2725	821	4	74.0	4	55.6	4	36.7	4	60.1	4	41.5	53.6	5	93.8
Eureka	1250	773	4	63.8	4	41.2	4	49.0	4	63.5	4	41.8	51.9	5	90.8
Gold	1145	829	4	70.8	4	69.8	4	45.0	4	75.1	4	28.5	57.8	5	101.3
Hannchen (Saskatchewan 229)	4841	837	4	71.9	4	70.5	4	50.5	4	83.7	4	42.8	63.9	5	111.9
Lapland	5973	877	4	78.4	4	65.5	4	38.9	4	72.4	4	45.7	60.2	5	105.4
Mensury (Ottawa 60)	4696	730	4	72.7	—	—	4	37.8	4	66.6	4	44.2	—	4	94.3
O. A. C. 21 <sup>1</sup>	1470	734	4	68.3	4	50.8	4	42.7	4	71.9	4	51.8	57.1	5	100.0
Pearl	4834	780	4	61.9	4	49.3	4	47.5	4	57.0	4	40.8	51.3	5	89.8
Star	1701	748	4	80.0	4	74.3	4	51.5	4	78.5	4	46.7	66.2	5	115.9
Stella (Ottawa 58)	4851	750	4	68.5	4	50.1	4	33.0	4	61.1	4	36.1	49.8	5	87.1
Trebi	936	753	4	84.5	4	80.8	4	48.2	4	88.6	4	47.3	69.9	5	122.4
Velvet	4252	755	—	—	4	43.0	4	33.6	4	63.1	4	24.6	—	4	75.6
Plumage Archer	5033	806	—	—	—	—	—	—	4	66.5	4	29.2	—	2	77.4
Regal	5030	742	—	—	—	—	—	—	4	70.2	4	41.3	—	2	95.0
Binder	4703	810	—	—	—	—	—	—	—	—	4	64.2	—	1	123.9
Colless	2792	772	—	—	—	—	—	—	—	—	4	44.7	—	1	86.3
Glabron	4577	718	—	—	—	—	—	—	—	—	4	43.9	—	1	84.7
Gordon (Ottawa 55)	4842	833	—	—	—	—	—	—	—	—	—	40.0	—	1	77.2
Manchurian (Ottawa 50)	4832	726	—	—	—	—	—	—	—	—	4	44.1	—	1	85.1
Fort Vermilion: <sup>2</sup>															
Albert (Ottawa 54)	4852	701	4	52.5	4	46.3	4	71.2	4	52.5	4	56.3	55.8	5	102.1
Charlottetown 80	2732	817	4	46.5	4	31.3	4	61.3	4	66.5	4	67.5	54.6	5	100.0
Eureka	1250	773	4	56.3	4	35.0	4	53.8	4	61.3	4	38.8	49.0	5	89.8
Gold	1145	829	4	53.8	4	28.8	4	68.8	4	67.5	4	59.0	55.6	5	101.8
Hull-less White	5972	785	4	47.5	4	32.5	4	50.0	4	58.8	4	47.5	47.3	5	86.6
Manchurian (Ottawa 50)	4832	726	4	61.3	4	37.5	4	68.8	4	65.0	4	60.0	58.5	5	107.2
O. A. C. 21 <sup>1</sup>	1470	734	4	62.5	4	41.7	4	63.8	4	62.5	4	42.5	54.6	5	100.0

<sup>1</sup> Standard variety with which others are compared.

<sup>2</sup> Yields at Fort Vermilion were obtained from ½-acre plots.

TABLE 35.—*Acre yields of barley varieties grown at the experimental stations at Lethbridge, Lacombe, Beaverlodge, and Fort Vermilion, Alberta, and at the University of Alberta, Edmonton, in 1 or more of the years 1927-31—Continued*

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years			
			1927		1928		1929		1930		1931				Average yield, 1927-31	
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield				
														Years	Yield	
Fort Vermilion—Contd.																
Success	4840	783	4	Bu. 51.3	4	Bu. 48.8	4	Bu. 62.5	4	Bu. 55.0	4	Bu. 50.0	Bu. 53.5	5	98.0	
Canadian Thorpe	740	816					4	72.5	4	73.8	4	50.0			3	116.3
Hennchen	531	837					4	67.5	4	71.3	4	66.6			3	121.7
Plumage Archer	5033	806					4	70.0	4	70.0	4	67.5			3	122.9
Star	1701	748					4	65.0	4	50.0	4	60.0			3	103.7
Edmonton: <sup>3</sup>																
Bark	2793	703	4	46.3	4	40.3	4	42.7	4	9.1	4	40.8	35.8	5	76.3	
Bearer (Ottawa 475)	4707	704	4	52.0	4	90.1	4	56.5	4	24.3	4	28.3	50.2	5	107.0	
Canadian Thorpe	740	816	4	55.4	4	37.1	4	33.0	4	11.0	4	50.0	37.3	5	79.4	
Charlottetown 80	2732	817	4	59.3	4	56.9	4	48.7	4	28.5	4	50.5	48.8	5	103.9	
Eureka	1250	773	4	38.5	4	40.2	4	28.9	4	37.3	4	27.4	34.5	5	73.4	
Hannchen	531	837	4	65.0	4	60.6	4	59.7	4	39.9	4	48.1	54.7	5	116.4	
Horn	926	1078	4	58.2	4	68.3	4	54.5	4	30.0	4	48.1	51.8	5	110.3	
Manchurian (Ottawa 50)	4832	726	4	37.4	4	59.2	4	27.4	4	17.2	4	43.9	37.0	5	78.8	
O. A. C. 21 <sup>1</sup>	1470	734	4	36.4	4	65.4	4	39.7	4	36.5	4	56.8	47.0	5	100.0	
Trebi	936	753	4	87.4	4	68.6	4	57.0	4	32.7	4	54.9	60.1	5	128.0	
Hybrid 265×O. A. C. 21 (H-19-146)		1089	4	88.4	4	68.9	4	56.0	4	43.5	4	63.9	64.1	5	136.6	
Gold	1145	829			4	37.0	4	36.3		9.4		39.4		4	61.5	
Alberta Beardless	4865	874								16.0		32.4		2	51.9	
Colless	2792	772								34.9		50.2		2	91.2	
Comfort	4578	712								35.8		52.4		2	94.5	
Duckbill (Ottawa 57)	1916	826								11.5		40.9		2	56.2	
Glabron	4577	718								29.0		49.3		2	83.9	
Minsturdy	1556	732								30.7		50.0		2	86.5	
New Era	5108	721								25.2		38.0		2	67.7	
Peatland	5267	722								17.5		53.4		2	76.0	
Plumage Archer	5033	1004								22.5		55.6		2	83.7	
Regal	5030	742								34.7		54.9		2	96.0	
Spartan	5027	860								22.5		43.9		2	71.2	
Star	1701	748								42.8		56.9		2	106.9	
Velvet	4252	755								22.0		52.4		2	79.7	
Vaughn (Alberta stock no. I-30-1)	1367	1090							4	17.8	4	18.6		2	39.0	
Atlas	4118	702									4	51.7		1	91.0	
California Mariout	1455	728									4	33.3		1	58.6	
Sacramento	4108	744									4	54.6		1	96.1	
Sol (Sixty-Day)	5031	782									4	39.7		1	69.9	

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> Yields at Edmonton were taken from center rows of 3 rod-row plots.<sup>3</sup> Canadian Thorpe was heavily infected with barley stripe in 1928, 1929, and 1930.

## EXPERIMENTAL STATION, BEAVERLODGE

W. D. ALBRIGHT, Superintendent

O. A. C. 21 (C. I. 1470) is taken as the standard of comparison in table 35. In the 5-year average of tests at Beaverlodge, Alberta, it ranks sixth in yield. The single yield of Binder in 1931 probably shows this variety in too favorable a light, due to harvesting conditions.

O.A.C. 21 is recommended as an early malting barley; Eureka (beardless and hull-less) and Trebi as feed barleys; and Hannchen (C.I. 4841) as a dual-purpose barley where earliness is not at a premium. They should be seeded as early in the spring as the ground can be put in condition and wheat seeding disposed of. This is usually from the last of April to the middle of May. The best rate is 6 or 7 pecks per acre.

EXPERIMENTAL STATION, FORT VERMILION

ROBERT JONES, *Superintendent*

During the 5 years, 1927-31, eight varieties of barley have been tested in each of the years (table 35). Manchurian (C.A. no. 726) produced the highest yields. Fewer varieties have been tested at Fort Vermilion than at the other Alberta stations, so direct comparisons are not as readily made. However, Hannchen (C.I. 531), which was tested in 1929, 1930, and 1931, produced high yields and for the short period exceeded Manchurian. Hannchen and O.A.C. 21 (C.I. 1470) are recommended for growing. They should be seeded in early May at the rate of 2 bushels per acre.

UNIVERSITY OF ALBERTA, EDMONTON

O. S. AAMODT, *Department of Field Crops*

The highest yielding variety at Edmonton, Alberta, was an unnamed smooth-awned hybrid selection designated as 265×O.A.C. 21 (H-19-146). For the full 5-year period (table 35) its yield was 136.6 percent of that of O.A.C. 21 (C.I. 1470). The yield of Trebi was also very high. Hannchen (C.I. 531), with an average yield of several bushels lower than that of Trebi, followed it in order of yield. However, owing to its weak straw, Hannchen is not recommended for Alberta, except in the dry area in the southeastern part of the Province. Canadian Thorpe is the recommended two-rowed variety for central-northern Alberta. Trebi and O.A.C. 21 are the recommended six-rowed varieties for the whole Province. They should be seeded in late April at the rate of 6 to 8 pecks per acre.

BRITISH COLUMBIA

EXPERIMENTAL FARM, AGASSIZ

W. H. HICKS, *Superintendent*

Eight varieties were grown at Agassiz, British Columbia, for the 4 years reported in table 36. The yields of O.A.C. 21 and Bearer were about equal, with the latter slightly better. Trebi was the best of the varieties grown for less than 4 years. O.A.C. 21 is recommended. Seeding should be done in April at the rate of 2 bushels per acre.

EXPERIMENTAL STATION, SYDNEY (SAANICHTON)

E. M. STRAIGHT, *Superintendent*

Only two varieties were grown for the full 5-year period at Sydney (table 36). For the years in which they were grown, Charlottetown 80 and Trebi exceeded Gold in yield. Trebi and Charlottetown 80 are recommended. They should be seeded in April at the rate of 8 pecks per acre.

TABLE 36.—*Acre yields of varieties of barley grown at the experimental farm at Agassiz, British Columbia, and at the experimental station at Sydney (Saanichton), for 1 or more of the years 1927–31*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Station and variety	C. I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield	
Agassiz:															
Bearer (Ottawa 475)-----	4707	704	----	<i>Bu.</i>	----	<i>Bu.</i>	----	<i>Bu.</i>	----	<i>Bu.</i>	----	<i>Bu.</i>	<i>Bu.</i>	----	<i>Pd.</i>
Charlottetown 80-----	2732	817	----	----	4	37.2	4	68.1	4	65.4	4	36.5	51.8	4	102.0
Early Chevalier (Ottawa 51)-----	2725	821	----	----	4	29.5	4	51.7	4	43.5	4	35.8	40.1	4	79.0
Gold-----	1145	829	----	----	4	27.6	4	58.1	4	53.8	4	35.2	43.7	4	86.0
Himalayan (Ottawa 59)-----	4838	765	----	----	4	27.1	4	54.1	4	47.7	4	28.8	39.4	4	77.6
Mensury (Chinese Ottawa 60)-----	4696	730	----	----	4	27.0	4	50.8	4	56.3	4	31.9	41.5	4	81.7
O. A. C. 21 <sup>1</sup> -----	1470	734	----	----	4	33.4	4	62.4	4	67.5	4	39.8	50.8	4	100.0
Success-----	4840	783	----	----	4	32.1	4	48.5	4	54.0	4	27.7	40.6	4	79.9
Plumage Archer-----	5033	806	----	----	----	----	4	56.2	4	41.6	4	27.9	-----	3	74.1
Star-----	1701	748	----	----	----	----	4	77.0	4	69.8	4	31.3	-----	3	104.9
Trebi-----	936	753	----	----	----	----	4	74.8	4	69.6	4	38.3	-----	3	107.7
Velvet-----	4252	755	----	----	----	----	----	----	4	73.3	4	31.5	-----	2	97.7
Sans Barb No. 3-----	5970	746	----	----	----	----	----	----	----	4	24.0	----	----	1	60.3
Sydney:															
Bearer (Ottawa 475)-----	4707	704	4	65.6	4	47.2	4	69.4	4	17.4	4	34.8	46.9	5	86.4
Gold <sup>1</sup> -----	1145	829	4	62.0	4	56.1	4	70.0	4	33.6	4	49.7	54.3	5	100.0
Charlottetown 80-----	2732	817	----	----	4	-----	4	97.6	4	36.7	4	35.9	-----	3	111.0
Hannchen-----	531	837	----	----	----	----	----	----	4	24.8	4	47.5	-----	2	86.8
O. A. C. 21-----	1470	734	----	----	----	----	----	----	4	32.3	4	33.2	-----	2	83.6
Plumage Archer-----	5033	806	----	----	----	----	----	----	4	30.7	4	38.5	-----	2	83.1
Star-----	1701	748	----	----	----	----	----	----	4	31.7	4	45.4	-----	2	92.6
Trebi-----	936	753	----	----	----	----	----	----	4	34.3	4	63.2	-----	2	117.0
Sans Barb No. 3-----	5970	746	----	----	----	----	----	----	----	4	32.9	----	----	1	66.2

<sup>1</sup> Standard variety with which others are compared.

## MANITOBA

## EXPERIMENTAL FARM, BRANDON

M. J. TINLINE, Superintendent

O.A.C. 21 was used as the standard of comparison in table 37. Trebi has given good results in Manitoba and is recommended as a feed barley. However, where there is a demand for a variety suitable for malting O.A.C. 21 is recommended.

Barley should be seeded in April or early May in southern Manitoba and during May farther north. Seeding at a rate of 2 bushels per acre is recommended.

## EXPERIMENTAL STATION, MORDEN

W. R. LESLIE, Superintendent

When measured by average yield, using O.A.C. 21 as a standard, Trebi stood in a class by itself. For the 4 years reported from

Morden in table 37, its yield was almost 7 bushels greater than its nearest competitor.

Trebi is recommended as a feed barley for seeding on summer-fallow in the Morden area. Mensury, O.A.C. 21, and Regal are recommended varieties.

Barley should be seeded by late April or early May at the rate of 8 pecks per acre.

TABLE 37.—*Acre yields of varieties of barley grown at the experimental farm at Brandon, Manitoba, and at the experimental station at Morden, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Years	Yield	
<b>Brandon:</b>															
Bearer (Ottawa 475).....	4707	704	4	Bu.	4	79.3	4	42.1	4	41.0	4	45.3	58.2	5	102.1
Canadian Thorpe.....	740	816	4	73.9	4	84.7	4	37.2	4	53.2	4	50.9	60.0	5	105.3
Duckbill (Ottawa 57).....	1916	826	4	55.9	4	50.5	4	23.2	4	40.5	4	35.6	41.1	5	72.2
Hannchen.....	531	837	4	78.6	4	53.4	4	48.4	4	45.6	4	43.4	53.9	5	94.6
Himalayan (Ottawa 59).....	4838	765	4	73.0	4	34.0	4	47.8	4	54.7	4	29.1	47.7	5	83.7
Mensury (Ottawa 60).....	4696	730	4	83.5	4	49.2	4	57.2	4	79.1	4	---	---	4	109.4
O. A. C. 21 <sup>1</sup> .....	1470	734	4	79.5	4	39.1	4	47.8	4	79.5	4	39.0	57.0	5	100.0
Plumage Archer.....	5033	806	4	63.9	4	38.6	4	34.8	4	27.6	4	37.7	40.5	5	71.1
Star.....	1701	748	4	96.0	4	56.7	4	57.2	4	70.3	4	32.2	62.5	5	109.7
Trebi.....	936	753	4	87.3	4	51.0	4	49.6	4	67.1	4	43.3	59.7	5	104.7
Velvet.....	4252	755	4	95.6	4	66.1	4	43.5	4	62.4	4	37.7	61.1	5	107.2
Sol (Sixty-Day).....	5031	782	---	---	4	37.6	4	48.5	4	44.8	4	34.5	---	4	80.5
Colless.....	2792	772	---	---	---	---	4	48.6	4	55.8	4	31.4	---	3	81.7
Regal.....	5030	742	---	---	---	---	4	56.8	4	69.8	4	27.6	---	3	92.7
Binder.....	4703	810	---	---	---	---	---	---	4	51.5	4	36.5	---	2	74.3
Gordon (Ottawa 55).....	4842	833	---	---	---	---	---	---	4	55.9	4	38.9	---	2	80.0
<b>Morden:</b>															
Bearer (Ottawa 475).....	4707	704	4	60.8	4	46.0	4	48.6	4	50.8	---	---	51.6	4	87.0
Canadian Thorpe.....	740	816	4	52.0	4	35.4	4	47.1	4	42.9	---	---	44.4	4	74.9
Charlottetown 80.....	2732	817	4	59.3	4	41.2	4	57.8	4	43.8	---	---	50.5	4	85.3
Duckbill (Ottawa 57).....	1916	826	4	40.2	4	35.4	4	45.5	4	48.9	---	---	42.5	4	71.8
Gold.....	1145	829	4	65.9	4	26.5	4	61.0	4	54.5	---	---	52.0	4	87.8
Hannchen.....	531	837	4	80.3	4	42.4	4	68.1	4	55.2	---	---	61.5	4	103.8
Manchurian (Ottawa 50).....	4832	726	4	60.8	4	53.7	4	46.1	4	67.2	---	---	57.0	4	96.2
Mensury (Ottawa 60).....	4696	730	4	70.7	4	48.3	4	49.9	4	33.8	---	---	63.2	4	106.7
O. A. C. 21 <sup>1</sup> .....	1470	734	4	78.5	4	44.8	4	42.5	4	71.1	---	---	59.2	4	100.0
Pearl.....	4834	780	4	39.4	4	13.4	4	40.7	4	28.5	---	---	30.5	4	51.5
Star.....	1701	748	4	63.4	4	53.0	4	42.1	4	55.4	---	---	53.5	4	90.3
Trebi.....	936	753	4	67.8	4	61.3	4	60.4	4	91.6	---	---	70.3	4	118.7
Velvet.....	4252	755	4	70.7	4	48.9	4	50.1	4	80.0	---	---	62.4	4	105.4
Colless.....	2792	772	---	---	---	---	---	---	4	74.7	---	---	---	1	105.1
Early Chevalier (Ottawa 51).....	2725	821	---	---	---	---	---	---	4	67.9	---	---	---	1	95.5
Glabron.....	4577	718	---	---	---	---	---	---	4	59.4	---	---	---	1	83.5
Gordon (Ottawa 55).....	4842	833	---	---	---	---	---	---	4	62.0	---	---	---	1	87.2
Plumage Archer.....	5033	806	---	---	---	---	---	---	4	34.0	---	---	---	1	47.8
Regal.....	5030	742	---	---	---	---	---	---	4	78.5	---	---	---	1	110.4

<sup>1</sup> Standard variety with which others are compared.

## NEW BRUNSWICK

## EXPERIMENTAL STATION, FREDERICTON, NEW BRUNSWICK

C. F. BAILEY, *Superintendent*

The highest yield of the varieties grown at Fredericton, New Brunswick, in all 5 years was secured from O.A.C. 21. Bearer, Velvet, and Charlottetown 80 were almost as good. As may be seen in table 38, Trebi, which was grown only 4 years, gave good results in those years. Charlottetown 80 and O.A.C. 21 are recommended as suitable varieties for growing.

Barley should be seeded in May at the rate of 2 bushels per acre.

TABLE 38.—*Acre yields of varieties of barley grown at the experimental station at Fredericton, New Brunswick, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Pct.	
Bearer (Ottawa 475)-----	4707	704	4	50.2	4	33.0	4	54.0	4	46.2	4	45.8	45.8	5	97.9
Charlottetown 80-----	2732	817	4	43.3	4	33.6	4	53.1	4	45.0	4	48.0	44.6	5	95.2
Duckbill (Ottawa 57)-----	1916	826	4	32.7	4	44.9	4	53.6	4	29.3	4	25.5	37.2	5	79.4
Duckbill (M.C. 207)-----	4864	827	4	31.7	4	27.3	4	43.4	4	26.9	4	20.8	30.0	5	64.1
Early Chevalier (Ottawa 51)-----	2725	821	4	47.0	4	46.4	4	47.0	4	38.7	4	45.6	44.9	5	95.9
French Chevalier-----	175	822	4	41.0	4	29.7	4	45.4	4	38.4	4	39.0	38.7	5	82.6
Glabron-----	4577	718	4	54.9	4	26.8	4	46.4	4	41.5	4	35.2	41.0	5	87.4
Gold-----	1145	829	4	41.1	4	25.8	4	52.6	4	43.1	4	46.2	41.8	5	89.2
Guy Mayle (M.C. 312)-----	4839	764	4	44.0	4	19.3	4	40.9	4	31.9	4	30.7	33.4	5	71.2
Hannchen-----	531	837	4	49.5	4	21.3	4	54.3	4	36.5	4	42.1	40.7	5	87.0
Himalayan (Ottawa 59)-----	4838	765	4	43.0	4	19.3	4	38.1	4	35.1	4	33.8	33.9	5	72.3
Manchurian (Ottawa 50)-----	4832	726	4	50.7	4	30.2	4	53.8	4	32.4	4	28.0	39.0	5	83.3
Manchurian (C.R.)-----	4833	725	4	55.1	4	37.8	4	55.7	4	35.6	4	32.8	43.4	5	92.7
Mensury (Chinese Ottawa 60)-----	4696	730	4	55.9	4	39.1	4	50.8	4	41.8	4	36.0	44.7	5	95.5
O. A. C. 21-----	1470	734	4	56.2	4	37.5	4	53.9	4	45.1	4	41.5	46.8	5	100.0
Star-----	1701	748	4	49.9	4	29.4	4	52.8	4	37.8	4	49.1	43.8	5	93.5
Velvet-----	4252	755	4	59.4	4	34.6	4	52.4	4	43.2	4	38.0	45.5	5	97.2
Trebi-----	936	753	4	---	4	43.6	4	67.9	4	57.1	4	53.8	---	4	124.9
Plumage Archer-----	5033	806	---	---	---	---	4	36.0	4	30.8	4	27.0	---	3	66.8
Albert (Ottawa 54)-----	4852	701	---	---	---	---	---	---	4	33.3	4	35.9	---	2	79.9
Binder-----	4703	810	---	---	---	---	---	---	4	53.1	4	44.4	---	2	112.6
Canadian Thorpe-----	740	816	---	---	---	---	---	---	4	36.5	4	28.7	---	2	75.3
Gordon (Ottawa 55)-----	4842	833	---	---	---	---	---	---	4	37.1	4	39.2	---	2	88.1
Horn-----	926	838	---	---	---	---	---	---	4	46.4	4	42.0	---	2	102.1
Monck-----	5971	847	---	---	---	---	---	---	4	22.2	4	34.1	---	2	65.0
Pontiac-----	4849	741	---	---	---	---	---	---	4	44.1	4	35.7	---	2	92.1
Stella (Ottawa 58)-----	4851	750	---	---	---	---	---	---	4	35.1	4	27.6	---	2	72.4

<sup>1</sup> Standard variety with which others are compared.



## NOVA SCOTIA

## EXPERIMENTAL FARM, NAPPAN

W. W. BAIRD, *Superintendent*

At Nappan, Nova Scotia, 16 varieties of barley were tested in all of the 5 years reported in table 39. Of those tested for the full period, the highest yields were secured for Manchurian (C.A. no. 725) and Charlottetown 80. Trebi, which was grown only in 4 years, gave high yields. A number of varieties grown for 2 years showed promise. Considering the high yields previously secured from Charlottetown 80, it is recommended for growing unless a six-rowed variety is required, in which case O.A.C. 21 should be used. Barley should be seeded May 1 to June 1 at the rate of 8 to 10 pecks per acre.

TABLE 39.—*Acre yields of varieties of barley grown at the experimental farm at Nappan, Nova Scotia, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
				Bu.		Bu.		Bu.		Bu.		Bu.		Bu.	
Albert (Ottawa 54)	4852	701	4	25.8	4	40.6	4	39.5	4	53.9	4	31.6	38.3	5	73.1
Bearer (Ottawa 475)	4707	704	4	46.0	4	55.1	4	53.9	4	52.2	4	36.7	48.8	5	93.1
Charlottetown 80	2732	817	4	42.0	4	66.7	4	63.5	4	55.5	4	39.4	53.4	5	102.0
Duckbill (Ottawa 57)	1916	826	4	11.6	4	33.8	4	49.7	4	41.5	4	26.7	32.7	5	62.4
Duckbill (M.C. 207)	4864	827	4	12.1	4	41.3	4	52.4	4	44.4	4	27.5	35.5	5	67.9
Early Chevalier (Ottawa 51)	2725	821	4	33.1	4	53.8	4	60.2	4	43.1	4	32.4	44.5	5	85.0
French Chevalier	175	822	4	33.8	4	53.9	4	51.7	4	50.9	4	35.7	45.2	5	86.3
Gold	1145	829	4	33.4	4	53.3	4	68.2	4	50.9	4	38.0	48.8	5	93.1
Guy Mayle (M.C. 312)	4839	764	4	31.0	4	60.8	4	54.1	4	52.9	4	38.9	47.5	5	90.8
Hannchen	531	837	4	36.2	4	52.0	4	63.0	4	58.0	4	41.6	50.2	5	95.8
Himalayan (Ottawa 59)	4838	765	4	31.9	4	60.2	4	51.8	4	49.5	4	34.6	45.6	5	87.1
Manchurian (Ottawa 50)	4832	726	4	43.3	4	65.1	4	58.0	4	52.5	4	38.3	51.4	5	98.2
Manchurian (C.R.)	4833	725	4	45.4	4	68.3	4	60.9	4	55.0	4	41.5	54.2	5	103.5
Mensury (Chinese Ottawa 60)	4696	730	4	36.7	4	59.2	4	64.6	4	48.6	4	35.3	48.9	5	93.3
O.A.C. 21	1470	734	4	42.5	4	62.1	4	66.6	4	52.4	4	39.3	52.4	5	100.0
Star	1701	748	4	41.6	4	68.9	4	56.5	4	37.0	4	37.4	48.3	5	92.2
Trebi	936	753	4	81.5	4	73.2	4	67.3	4	48.3	4	42.3	4	123.2	
Binder	4703	810	4	68.4	4	68.4	4	68.4	4	45.8	4	45.8	4	125.9	
Canadian Thorpe	740	816	4	45.9	4	45.9	4	45.9	4	28.3	4	28.3	4	81.8	
Gordon (Ottawa 55)	4842	833	4	54.6	4	54.6	4	54.6	4	34.6	4	34.6	4	98.3	
Horn	926	838	4	54.0	4	54.0	4	54.0	4	43.2	4	43.2	4	107.2	
Plumage Archer	5033	806	4	41.1	4	41.1	4	41.1	4	26.5	4	26.5	4	74.5	
Pontiac	4849	741	4	62.6	4	62.6	4	62.6	4	42.9	4	42.9	4	116.3	
Stella (Ottawa 58)	4851	750	4	64.4	4	64.4	4	64.4	4	38.3	4	38.3	4	113.2	
Velvet	4252	755	4	59.8	4	59.8	4	59.8	4	35.8	4	35.8	4	105.4	
Glabron	4577	718	4	32.0	4	32.0	4	32.0	4	32.0	4	32.0	4	83.6	
Spartan	5027	860	4	34.6	4	34.6	4	34.6	4	34.6	4	34.6	4	90.3	

<sup>1</sup> Standard variety with which others are compared.

## ONTARIO

## CENTRAL EXPERIMENTAL FARM, OTTAWA

For the past 5 years, the results of which are reported in table 40, barleys of the Manchuria type have been the most productive at Ottawa. Manchurian (C.A. no. 726), Manchurian (C.A. no. 725), O.A.C. 21 (C.I. 1470), and Mensury all produced high yields. The highest average, however, was secured from Early Chevalier. Velvet was the most promising of the smooth-awned barleys. O.A.C. 21 and Mensury are recommended. They should be seeded in May at the rate of 2 bushels per acre.

## EXPERIMENTAL STATION, KAPUSKASING

S. BALLANTYNE, Superintendent

O.A.C. 21 (C.I. 1470) was used as the standard of comparison for varieties at Kapuskasing, reported in table 40. Trebi produced higher yields than Hannchen in 3 of the 4 years in which Trebi was grown. In this part of Ontario early maturing varieties are essential, hence O.A.C. 21 is the recommended variety at present.

Barley should be seeded in May at the rate of 2 bushels per acre.

TABLE 40.—*Acre yields of varieties of barley grown at the Central Experimental Farm, Ottawa, at the experimental station at Kapuskasing, and at the Ontario Agricultural College, Guelph, Ontario, in 1 or more of the years 1927-31*

[Data for Ottawa and Kapuskasing obtained through the courtesy of the Dominion Experimental Farms and for Guelph through the courtesy of the Ontario Agricultural College]

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Years	Yield
Ottawa:															
Bearer (Ottawa 475).....	4707	704	4	44.5	4	42.9	4	27.1	4	31.8	4	26.2	34.5	5	81.5
Charlottetown 80.....	2732	817	4	38.4	4	40.2	4	27.3	4	38.3	4	27.9	34.4	5	81.3
Clifford.....	4845	825	4	42.9	4	37.3	4	28.0	4	39.7	4	37.4	37.1	5	87.6
Duckbill (Ottawa 57).....	1916	826	4	23.5	4	19.9	4	13.7	4	16.0	4	9.5	16.5	5	39.0
Duckbill (M.C. 207).....	4864	827	4	20.1	4	31.9	4	20.4	---	---	---	---	---	3	56.8
Early Chevalier (Ottawa 51).....	2725	821	4	46.9	4	35.8	4	35.6	4	49.8	4	46.7	43.0	5	101.5
Escourgeon.....	2716	714	4	56.2	4	41.5	4	27.3	4	40.2	4	33.6	39.8	5	94.0
Gold.....	1145	829	4	50.6	4	27.9	4	25.2	4	34.2	4	18.7	31.3	5	74.0
Gordon (Ottawa 55).....	4842	833	4	45.5	4	41.9	4	23.2	4	35.5	4	37.9	37.4	5	88.4
Hannchen.....	531	837	4	45.6	4	37.7	4	30.9	4	27.1	4	26.8	33.6	5	79.4
Manchurian (Ottawa 50).....	4832	726	4	60.6	4	47.1	4	29.7	4	40.2	4	34.0	42.3	5	100.0
Manchurian (C.R.).....	4833	725	4	62.5	4	48.6	4	30.0	4	39.3	4	32.1	42.5	5	100.4
Mensury (Ottawa 60).....	4696	730	4	53.9	4	39.4	4	28.0	4	42.6	4	37.7	40.3	5	95.3
Nugent.....	4706	733	4	57.6	4	47.9	4	31.1	4	35.7	4	28.5	40.2	5	94.9
O.A.C. 21 <sup>1</sup> .....	1470	734	4	53.3	4	39.8	4	34.4	4	47.0	4	37.1	42.3	5	100.0
Star.....	1701	748	4	46.2	4	39.2	4	24.4	4	36.4	4	34.8	36.2	5	96.6
O.A.C. 21 (Saskatchewan 228).....	4708	735	4	49.2	4	45.6	4	29.1	4	40.7	4	39.7	40.9	5	85.5
Stella (Ottawa 58).....	4851	750	4	63.5	4	43.6	4	30.0	4	33.6	4	24.9	39.1	5	92.4
Velvet.....	4252	755	4	57.5	4	45.7	4	30.3	4	34.5	4	37.1	41.0	5	96.9
Glaboron.....	4577	718	---	---	4	44.9	4	33.4	4	39.8	4	37.5	---	4	98.3
Trebi.....	936	753	---	---	4	46.8	4	31.9	4	41.1	4	39.2	---	4	100.4

<sup>1</sup> Standard variety with which others are compared.

TABLE 40.—*Acre yields of varieties of barley grown at the Central Experimental Farm, Ottawa, at the experimental station at Kapuskasing, and at the Ontario Agricultural College, Guelph, Ontario, in 1 or more of the years 1927-31—Con.*

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Average yield, 1927-31	Years	Yield
Ottawa—Continued.				Bu.		Bu.		Bu.		Bu.		Bu.		Pct.	
Colless	2792	772							4	33.3	4	29.9		2	75.1
Comfort	4578	712							4	33.3	4	39.5		2	86.6
Featherston	1120	715							4	30.8	4	44.4		2	89.4
Monck	5971	847							4	28.9	4	26.4		2	65.8
Plumage Archer	5033	806							4	22.1	4	6.6		2	34.1
Pontiac	4849	741							4	40.5	4	38.9		2	94.4
Alpha	959	801							4	41.2	4	43.9		2	101.2
Kapuskasing:															
Albert (Ottawa 54)	4852	701	4	43.7	4	39.7	4	20.6	4	35.4	4	26.9	33.3	5	78.7
Bearer (Ottawa 475)	4707	704	4	58.1	4	44.1	4	33.2	4	58.6	4	37.8	46.4	5	109.6
Binder	4703	810	4	68.3	4	48.7	4	47.3	4	64.0	4	43.0	54.3	5	128.3
Charlottetown 80	2732	817	4	51.4	4	38.5	4	31.1	4	55.5	4	33.5	42.0	5	99.3
Duckbill (Ottawa 57)	1916	826	4	59.2	4	38.8	4	29.8	4	42.0	4	29.3	39.8	5	94.2
Duckbill (M.C. 207)	4864	827	4	63.3	4	47.0	4	30.7	4	55.3	4	36.7	46.6	5	110.2
Early Chevalier (Ottawa 51)	2725	821	4	48.5	4	36.6	4	36.4	4	46.5	4	32.3	40.1	5	94.7
French Chevalier	175	822	4	62.6	4	43.3	4	25.8	4	44.4	4	32.4	41.7	5	98.6
Gold	1145	829	4	54.8	4	42.5	4	36.3	4	60.4	4	37.6	46.3	5	109.6
Guy Mayle (M.C. 312)	4839	764	4	44.5	4	52.1	4	36.0	4	63.7	4	32.1	45.7	5	108.0
Hannchen	531	837	4	63.9	4	51.6	4	35.1	4	58.3	4	45.9	51.0	5	120.5
Himalayan (Ottawa 59)	4838	765	4	46.5	4	46.0	4	35.3	4	42.2	4	31.8	40.4	5	95.5
Manchurian (Ottawa 50)	4832	726	4	60.9	4	43.7	4	35.4	4	47.9	4	38.0	45.2	5	106.9
Manchurian (C.R.)	4833	725	4	61.8	4	43.8	4	28.9	4	54.5	4	39.9	45.8	5	108.3
Mensury (Ottawa 60)	4696	730	4	53.3	4	34.0	4	32.9	4	53.5	4	41.1	43.0	5	101.6
O.A.C. 21 <sup>1</sup>	1470	734	4	50.0	4	37.9	4	33.5	4	51.4	4	38.6	42.3	5	100.0
Pontiac	4849	741	4	63.4	4	42.0	4	33.4	4	58.3	4	37.4	46.9	5	110.9
Star	1701	748	4	58.0	4	41.5	4	37.9	4	53.6	4	34.4	45.1	5	106.6
Velvet	4252	755	4	34.8	4	26.9	4	26.2	4	49.0	4	35.7	34.5	5	81.6
Trebi	936	753			4	51.0	4	36.7	4	63.8	4	48.6		4	124.0
Plumage Archer	5033	806					4	33.0	4	54.5	4	25.7		3	91.7
Gordon (Ottawa 55)	4842	833							4	44.3	4	32.7		2	85.6
Guelph:															
Velvet	4252	755	3	60.6	3	43.6	3	38.8	3	56.5	3	67.8	53.5	5	106.8
Bearer	4707	704	3	59.2	3	48.3	3	37.1	3	58.9	3	58.2	52.3	5	104.6
Oderbrucker	2700	1059	3	50.9	3	35.9	3	38.5	3	61.5	3	68.0	51.0	5	101.8
Colless	2792	772	3	49.5	3	47.0	3	38.1	3	60.2	3	57.0	50.4	5	100.6
O.A.C. 21 <sup>1</sup>	1470	734	3	53.2	3	48.8	3	37.7	3	51.8	3	58.7	50.0	5	100.0
Manchuria (Minnesota 184)	2330	724	3	54.0	3	43.3	3	42.1	3	49.5	3	57.3	49.2	5	98.4
Wisconsin Pedigree		757	3	50.3	3	34.4	3	43.6	3	56.9	3	59.7	49.0	5	97.9
Mensury (Ottawa 60)	4696	730	3	58.7	3	48.8	3	28.3	3	52.1	3	56.1	48.8	5	97.5
Mandscheuri 620	1091	3	53.8	3	34.3	3	38.3	3	51.5	3	50.1	45.6	5	91.1	
Mandscheuri (Manchuria)	244	794	3	52.4	3	32.0	3	32.9	3	48.6	3	48.5	42.9	5	85.7
Common Six-Row	184	1060	3	42.3	3	30.0	3	33.1	3	46.0	3	53.8	41.0	5	82.0
Success	2707	1062	3	37.6	3	23.6	3	34.8	3	50.1	3	55.0	40.2	5	80.4
French Chevalier	175	822	3	48.8	3	50.6	3	32.9	3	58.6	3	60.5	50.3	5	100.5
Garton's Spratt-Archer	5989	803	3	56.6	3	37.3	3	39.3	3	59.7	3	53.9	49.4	5	98.6
Charlottetown 80	2732	817	3	36.0	3	40.9	3	49.7	3	52.1	3	57.4	47.2	5	94.4
Garton's Standwell		861	3	45.2	4	41.1	3	30.8	3	45.3	3	53.7	43.2	5	86.4
Garton's Triumph		796	3	46.4	3	41.3	3	21.4	3	45.3	3	53.6	41.6	5	83.1
Duckbill (Ottawa 57)	1916	826	3	38.4	3	27.8	3	24.7	3	52.7	3	55.7	39.9	5	79.7
Duckbill		1063	3	34.5	3	27.6	3	27.0	3	49.9	3	58.6	39.5	5	79.0
Guy Mayle (Himalaya)	620	763	3	50.1	3	44.8	3	39.9	3	58.1	3	54.3	49.4	5	98.8
Purple (Black Hull-less)	4876	1066	3	45.9	3	48.2	3	33.6	3	51.5	3	56.3	47.1	5	94.1
Winnipeg No. 2	4877	1067	3	50.9	3	39.6	3	28.8	3	46.4	3	56.1	44.4	5	88.6
Black Hull-less	596	1065	3	45.6	3	42.8	3	31.7	3	45.3	3	57.1	44.5	5	88.9
New White Hull-less (Nepal)	4878	1068	3	40.9	3	35.6	3	25.3	3	51.4	3	29.8	36.6	5	73.1

<sup>1</sup> Standard variety with which others are compared.

## ONTARIO AGRICULTURAL COLLEGE, GUELPH

W. J. SQUIRREL, *Department of Field Husbandry*

The highest average yield at Guelph was secured from Velvet (table 40). The yield of Bearer was only 1 bushel less. Velvet produced 3.5 bushels more grain than did O.A.C. 21 (C.I. 1470). This latter variety, however, is still considered the conservative recommendation to farmers. Barley should be seeded in April at the rate of 2 bushels per acre.

## PRINCE EDWARD ISLAND

## EXPERIMENTAL STATION, CHARLOTTETOWN

J. A. CLARK, *Superintendent*

The yields from Charlottetown, Prince Edward Island, reported in table 41, are in accord with those of previous years. Charlottetown 80 has always been a good variety here, and it is the only one that exceeded O.A.C. 21 for the 5-year period. It is recommended for this Province. Barley should be seeded in May at the rate of 2 bushels per acre.

TABLE 41.—*Acre yields of varieties of barley grown at the experimental station at Charlottetown, Prince Edward Island, in 1 or more of the years 1927-31*

[Data obtained through the courtesy of the Dominion Experimental Farms]

Variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
				Bu.		Bu.		Bu.		Bu.		Bu.		Bu.	Years
Bearer (Ottawa 475)-----	4707	704	4	28.9	4	32.0	4	48.3	4	42.3	4	23.6	35.0	5	94.5
Charlottetown 80-----	2732	817	4	28.3	4	39.5	4	53.9	4	39.2	4	37.0	39.6	5	106.9
Duckbill (Ottawa 57)-----	1916	826	4	9.3	4	32.9	4	39.1	4	24.5	4	19.7	25.1	5	67.8
Early Chevalier (Ottawa 51)-----	2725	821	4	29.0	4	36.3	4	45.7	4	35.1	4	22.7	33.8	5	91.1
French Chevalier-----	175	822	4	22.4	4	36.8	4	47.9	4	31.0	4	20.4	31.7	5	85.6
Gold-----	1145	829	4	15.6	4	44.5	4	43.4	4	35.9	4	27.4	33.4	5	90.1
Guy Mayle (M. C. 312)-----	4839	764	4	12.5	4	22.7	4	40.3	4	22.8	4	16.2	22.9	5	61.8
Hannchen-----	531	837	4	27.0	4	34.5	4	48.7	4	34.2	4	20.2	32.9	5	88.9
Himalayan (Ottawa 59)-----	4838	765	4	11.7	4	18.5	4	39.8	4	21.8	4	14.5	21.3	5	57.4
Horn-----	926	838	4	28.2	4	33.8	4	44.0	4	36.0	4	26.0	33.6	5	90.7
Manchurian (Ottawa 50)-----	4832	726	4	24.7	4	41.2	4	48.7	4	29.2	4	20.0	32.8	5	88.4
Manchurian (C. R. 14)-----	4833	725	4	36.5	4	43.9	4	49.0	4	32.1	4	21.5	36.6	5	98.8
Mensury (Chinese Ottawa 60)-----	4696	730	4	25.3	4	35.2	4	44.5	4	34.0	4	19.4	31.7	5	85.5
O. A. C. 21 <sup>1</sup> -----	1470	734	4	33.0	4	45.5	4	47.7	4	35.1	4	23.9	37.0	5	100.0
Star-----	1701	748	4	28.6	4	32.2	4	47.3	4	33.0	4	27.0	33.6	5	90.8
Velvet-----	4252	755	4	32.1	4	43.6	4	49.9	4	32.0	4	27.0	36.9	5	99.7
Binder-----	4703	810	4	-----	4	-----	4	-----	4	37.4	4	23.9	-----	2	103.9
Gordon (Ottawa 55)-----	4842	833	4	-----	4	-----	4	-----	4	31.8	4	23.2	-----	2	93.2
Pontiac-----	4849	741	4	-----	4	-----	4	-----	4	31.0	4	13.3	-----	2	75.1
Stella (Ottawa 58)-----	4851	750	4	-----	4	-----	4	-----	4	29.6	4	15.5	-----	2	76.4
Trebl-----	936	753	4	-----	4	-----	4	-----	4	31.7	4	21.3	-----	2	89.8

<sup>1</sup> Standard variety with which others are compared.

## QUEBEC

## EXPERIMENTAL STATION, CAP ROUGE

GUS A. LANGEIER, *Superintendent*

At Cap Rouge, Quebec, 10 varieties were grown in all of the 5 years reported in table 42. Of these, Bearer, produced the highest yield. Mensury, Charlottetown 80, and O.A.C. 21 followed in the order named. Of the varieties grown less than 5 years, Trebi and Binder made the best showing. Mensury is recommended. Barley should be seeded in May at the rate of 2 bushels per acre.

## EXPERIMENTAL STATION, LENNOXVILLE

J. A. McCLARY, *Superintendent*

Results at Lennoxville for only 4 years are reported in table 42. Charlottetown 80, Manchurian (C.A. no. 725), Mensury, and O.A.C. 21 were the four best varieties. Charlottetown 80, Mensury, or O.A.C. 21 are recommended. They should be seeded early in May at the rate of 2 bushels per acre.

TABLE 42.—*Acre yields of varieties of barley grown at the experimental stations at Cap Rouge, Lennoxville, Ste. Anne de la Pocatiere, and at MacDonald College, Ste. Anne de Bellevue, Quebec, in 1 or more of the years 1927-31*

[Data for Cap Rouge, Lennoxville, and Ste. Anne de la Pocatiere obtained through the courtesy of the Dominion Experimental Farms and for MacDonald College through the courtesy of MacDonald College]

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931			Average yield, 1927-31	
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Cap Rouge:				<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Pct.</i>	
Bearer (Ottawa 475).....	4707	704	4	29.4	4	35.3	4	31.2	4	61.5	4	52.4	42.0	5	111.4
Charlottetown 80.....	2732	817	4	28.4	4	31.1	4	26.1	4	54.6	4	50.0	38.0	5	101.0
Duckbill (Ottawa 57).....	1916	826	4	18.6	4	21.0			4	38.1	4	30.9		4	66.6
Duckbill (M.C. 207).....	4864	827	4	22.2	4	26.9	4	17.3	4	36.3	4	37.2	28.0	5	74.3
Early Chevalier (Ottawa 51).....	2725	821	4	26.3	4	29.0	4	23.3	4	52.4	4	47.9	35.8	5	95.0
Hannchen.....	631	837	4	26.3	4	31.0	4	19.6	4	43.8	4	47.8	33.7	5	89.4
Himalayan (Ottawa 59).....	4838	765	4	23.8	4	28.3	4	25.5	4	48.2	4	40.0	33.2	5	88.0
Manchurian (C.R. 14).....	4833	725	4	24.4	4	36.1	4	25.3	4	48.7	4	51.2	37.1	5	98.6
Mensury (Chinese Ottawa 60).....	4696	730	4	28.1	4	34.7	4	27.9	4	47.3	4	56.0	38.8	5	103.0
O.A.C. 21.....	1470	734	4	26.7	4	32.7	4	25.3	4	52.7	5	51.0	37.7	5	100.0
Star.....	1701	748	4	22.5	4	34.5	4	25.5	4	50.1	4	46.1	35.7	5	94.9
Velvet.....	4252	755	4	28.3					4	45.9	4	54.8		3	98.9
Monck.....	5971	847			4	31.8	4	19.6	4	46.5	4	42.9		4	87.1
Pontiac.....	4849	741			4	36.7	4	26.1	4	55.9	4	47.0		4	102.5
Plumage Archer.....	5033	806			4		4	26.5	4	36.0	4	40.7		3	80.0
Alpha.....	959	801							4	56.9	4	53.6		2	106.6
Binder.....	4703	810							4	63.1	4	54.3		2	113.2
Canadian Thorpe.....	740	816							4	37.8	4	41.0		2	76.2
French Chevalier.....	175	822							4	40.7	4	34.9		2	72.0
Gordon (Ottawa 55).....	4842	833							4	43.1	4	42.3		2	82.9
Manchurian (Ottawa 50).....	4832	726							4	54.9	4	46.4		2	97.4
Stella (Ottawa 58).....	4851	750							4	51.1	4	46.1		2	93.7
Trebi.....	936	753							4	68.3	4	59.6		2	123.7

<sup>1</sup> Standard variety with which others are compared.

TABLE 42.—*Acre yields of varieties of barley grown at the experimental stations at Cap Rouge, Lennoxville, Ste. Anne de la Pocatiere, and at MacDonald College, Ste. Anne de Bellevue, Quebec, in 1 or more of the years 1927-31—Continued*

Station and variety	C. I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
Lennoxville:				<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Pct.</i>	
Bearer (Ottawa 475).....	4707	704	4	55.4	---	---	4	52.5	4	68.3	4	61.5	59.4	4	92.6
Charlottetown 80.....	2732	817	4	63.2	---	---	4	73.0	4	71.8	4	59.6	66.9	4	104.2
Duckbill (Ottawa 57).....	1916	826	4	50.7	---	---	4	32.2	4	44.2	4	41.9	42.3	4	65.8
Early Chevalier (Ottawa 51).....	2725	821	4	65.6	---	---	4	65.7	4	69.7	4	55.2	64.1	4	99.8
French Chevalier.....	175	822	4	59.8	---	---	4	46.8	4	64.2	4	52.9	55.9	4	87.1
Gold.....	1145	829	4	56.5	---	---	4	79.0	4	60.7	4	52.5	62.2	4	96.9
Hannchen.....	531	837	4	66.1	---	---	4	68.2	4	43.4	4	47.7	56.4	4	87.8
Himalayan (Ottawa 59).....	4838	765	4	59.0	---	---	4	73.3	4	34.4	4	31.5	49.6	4	77.2
Manchurian (Ottawa 50).....	4832	726	4	72.7	---	---	4	53.7	4	69.5	4	53.5	62.4	4	97.2
Manchurian (C.R. 14).....	4833	725	4	67.8	---	---	4	56.4	4	69.9	4	71.0	66.3	4	103.3
Mensury (Chinese Ottawa 60).....	4696	730	4	64.4	---	---	4	69.3	4	62.6	4	68.6	66.2	4	103.2
O.A.C. 21 <sup>1</sup> .....	1470	734	4	60.5	---	---	4	75.9	4	58.2	4	62.1	64.2	4	100.0
Pontiac.....	4849	741	4	52.9	---	---	4	44.1	4	66.5	4	67.7	57.8	4	90.1
Plumage Archer.....	5083	806	---	---	---	---	4	44.7	4	32.8	4	44.2	---	3	62.0
Trebi.....	936	753	---	---	---	---	4	66.2	4	81.1	4	60.8	---	3	106.1
Alpha.....	959	801	---	---	---	---	4	44.7	4	88.8	4	60.4	---	2	124.0
Binder.....	4703	810	---	---	---	---	4	60.7	4	60.7	4	63.1	---	2	102.9
Gordon (Ottawa 55).....	4842	833	---	---	---	---	4	58.6	4	58.6	4	45.8	---	2	86.8
Monck.....	5971	847	---	---	---	---	4	51.2	4	51.2	4	56.0	---	2	89.1
Oxford (hull-less).....	5974	740	---	---	---	---	4	40.9	4	40.9	4	42.1	---	2	69.0
Velvet.....	4252	755	---	---	---	---	4	65.2	4	65.2	4	59.8	---	2	103.9
Ste. Anne de la Pocatiere:															
Bearer (Ottawa 475).....	4707	704	4	60.6	4	73.3	4	65.3	4	68.7	4	59.7	65.5	5	104.9
Charlottetown 80.....	2732	817	4	67.5	4	63.2	4	55.0	4	55.7	4	50.1	58.3	5	93.3
Duckbill (Ottawa 57).....	1916	826	4	60.6	4	65.2	4	40.0	4	45.5	4	31.9	48.6	5	77.8
Duckbill (M.C. 207).....	4864	827	4	65.2	4	68.2	4	51.0	4	48.2	4	38.5	54.2	5	86.8
Early Chevalier (Ottawa 51).....	2725	821	4	47.8	4	57.5	4	60.0	4	53.5	4	47.3	53.2	5	85.2
French Chevalier.....	175	822	4	60.2	4	55.2	4	57.0	4	46.8	4	41.5	52.1	5	83.5
Gold.....	1145	829	4	66.6	4	62.9	4	60.0	4	57.6	4	44.5	58.3	5	93.3
Hannchen.....	531	837	4	74.5	4	64.3	4	72.0	4	64.1	4	47.2	64.4	5	103.1
Manchurian (Ottawa 50).....	4832	726	4	74.9	4	68.2	4	55.0	4	59.1	4	53.0	62.0	5	99.3
Manchurian (C.R. 14).....	4833	725	4	76.1	4	66.2	4	58.0	4	56.7	4	53.1	62.0	5	99.3
Mensury (Ottawa 60).....	4696	730	4	62.6	4	66.9	4	57.0	---	---	4	53.7	---	4	94.5
O.A.C. 21 <sup>1</sup> .....	1470	734	4	75.5	4	55.7	4	74.0	4	58.2	4	49.0	62.5	5	100.0
Star.....	1701	748	4	64.6	4	61.3	4	63.0	4	69.3	4	65.1	64.7	5	103.5
Himalayan (Ottawa 59).....	4838	765	4	62.3	4	56.0	---	---	4	52.6	4	46.0	---	4	91.0
Trebi.....	936	753	---	---	4	77.0	4	88.0	4	70.0	4	65.1	---	4	126.7
MacDonald College: <sup>2</sup>															
Six-rowed:															
O.A.C. 21 <sup>1</sup> .....	1470	734	6	59.8	---	---	6	43.3	6	57.5	4	55.7	---	4	100.0
Mensury (Ottawa 60).....	4696	730	5	58.1	---	---	5	43.0	5	64.0	4	50.0	---	4	99.4
Star.....	1701	748	5	57.1	---	---	5	45.1	5	63.7	---	---	---	3	103.3
Bearer (Ottawa 475).....	4707	704	5	64.9	---	---	5	50.0	5	62.3	4	46.1	---	4	103.2
Manchurian (C.R. 14).....	4833	725	5	61.5	---	---	5	49.2	5	60.0	4	44.5	---	4	99.5
Pontiac (Mandscheuri, M.C. 909).....	4849	741	---	---	---	---	5	52.3	5	60.8	4	50.5	---	3	104.5
Two-rowed:															
O.A.C. 21 <sup>1</sup> .....	1470	734	6	51.6	8	36.8	6	49.9	5	63.5	4	52.9	50.9	5	100.0
Hannchen.....	531	837	5	52.9	5	31.6	4	52.8	4	51.0	4	49.5	47.6	5	93.4
Charlottetown 80.....	2732	817	5	56.3	5	29.0	4	53.1	4	60.1	4	50.3	49.8	5	97.7
Monck.....	5971	847	---	---	5	32.3	4	47.3	4	56.2	4	49.5	---	4	91.2

<sup>1</sup> Standard variety with which others are compared.<sup>2</sup> These results were obtained from 1/100-acre plots.

## EXPERIMENTAL STATION, STE. ANNE DE LA POCATIERE

J. A. ST. MARIE, *Superintendent*

O.A.C. 21 is the standard variety used in table 42 and is also the recommended variety for the district surrounding Ste. Anne de la Pocatiere, Quebec. Hannchen is recommended where a two-rowed variety is preferred. Trebi shows great promise, having headed the list in the 4 years tested. However, its short straw does not recommend it for general use. The Manchuria-type barleys do well in this locality.

Barley should be seeded in May at the rate of 2 bushels per acre.

## MACDONALD COLLEGE, STE. ANNE DE BELLEVUE

EMILE A. LODS, *professor of agronomy*

Of the three varieties grown at Ste. Anne de Bellevue in all 5 of the years reported in table 42, O.A.C. 21 produced the highest yield. Only data applying to the older varieties are reported at this time. A large number of new varieties resulting from breeding work are being tested annually. Bearer and Pontiac were the best varieties grown for a shorter period. O.A.C. 21 and Bearer are recommended to the growers. If a 2-rowed sort is desired, either Hannchen or Charlottetown 80 should be satisfactory. Barley should be seeded as early as soil and weather conditions permit the preparation of the seed bed, and at the rate of 8 pecks per acre.

## SASKATCHEWAN

## EXPERIMENTAL FARM, INDIAN HEAD

W. H. GIBSON, *Superintendent*

As is noted in table 43, the 1931 yields of certain varieties were not comparable at Indian Head. Since this affects a number of standard sorts, all varieties grown for the 4-year period 1927-30 should be considered. On the basis of this period, the highest-yielding varieties were Trebi, Gold, Bearer, and Colsess. Hannchen (C.I. 531) produced high yields for the period 1922-26. For this reason Hannchen and Trebi are recommended. Seeding should be done in May at the rate of 2 bushels per acre.

## EXPERIMENTAL STATION, ROSTHERN

W. A. MUNRO, *Superintendent*

At Rosthern 16 varieties were grown in all of the 5 years reported in table 43. Of those grown for the full period, Trebi, Hannchen (C.I. 531), and Horn produced the highest yields and in the order named. These yields are in general agreement with earlier results at this station. Trebi and Hannchen are recommended. They should be seeded in May at the rate of 8 pecks per acre.

TABLE 43.—*Acre yields of varieties of barley grown at the experimental farm at Indian Head, at the experimental stations at Rosthern, Scott, and Swift Current, and at the University of Saskatchewan, Saskatoon, Saskatchewan, in 1 or more of the years 1927-31*

[Data for Indian Head, Rosthern, Scott, and Swift Current obtained through the courtesy of the Dominion Experimental Farms and for Saskatoon through the courtesy of the University of Saskatchewan]

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Year	Yield	
Indian Head:				<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>		<i>Bu.</i>			
Albert (Ottawa 54) .....	4852	701	4	41.7	4	37.5	4	45.0	4	16.9	2	105.9	4	68.5	4
Archer .....	5988	802	4	78.5	4	43.8	4	25.1	4	32.0	4	14.0	5	81.5	4
Bearer (Ottawa 475) .....	4707	704	4	116.9	4	58.9	4	43.5	4	31.9	2	32.7	4	121.9	4
Binder .....	4703	810	4	102.8	4	49.1	4	39.5	4	37.7	4	32.0	5	110.0	4
Canadian Thorpe .....	740	816	4	95.9	4	60.0	4	47.5	4	31.3	2	27.5	4	113.9	4
Charlottetown 80 .....	2732	817	4	95.5	4	56.5	4	52.1	4	42.3	4	21.7	5	112.9	4
Duckbill (Ottawa 57) .....	1916	826	4	76.1	4	54.6	4	31.5	4	37.7	4	21.0	5	93.0	4
Early Chevalier (Ottawa 51) .....	2725	821	4	75.0	4	36.9	4	52.5	4	25.3	4	29.3	43.8	5	92.2
Gold .....	1145	829	4	94.3	4	68.7	4	53.6	4	49.8	2	38.9	4	129.3	4
Hannchen .....	531	837	4	91.3	4	52.9	4	52.2	4	37.5	4	43.3	55.4	5	116.8
Himalayan (Ottawa 59) .....	4838	765	4	43.0	4	41.5	4	51.5	4	34.9	4	27.9	39.8	5	83.7
O. A. C. 21 (Saskatchewan 228) .....	4708	735	4	71.7	4	39.3	4	53.8	4	34.6	4	23.0	44.5	5	93.7
Kinver Chevalier .....	587	823	4	64.8	4	38.1	4	30.4	4	31.8	4	13.2	35.7	5	75.1
Makstur .....	585	845	4	109.1	4	69.4	4	46.8	4	36.3	4	22.8	56.9	5	119.8
Mensury (Ottawa 60) .....	4696	730	4	69.0	4	50.6	4	53.5	4	29.6	2	32.1	4	98.4	4
O. A. C. 21 <sup>1</sup> .....	1470	734	4	69.4	4	50.6	4	56.3	4	29.7	4	31.4	47.5	5	100.0
Pearl .....	4834	780	4	68.6	4	43.0	4	44.4	4	30.4	4	26.0	42.5	5	89.5
Plumage Archer .....	5033	806	4	79.2	4	48.7	4	24.9	4	26.5	4	38.2	43.5	5	91.6
Spratt Archer .....	5989	803	4	101.0	4	46.8	4	36.8	4	31.0	2	17.0	4	104.7	4
Standwell .....	584	861	4	100.4	4	56.9	4	44.6	4	43.5	4	21.8	53.4	5	112.6
Star .....	1701	748	4	66.1	4	33.9	4	46.5	4	27.6	4	25.1	39.8	5	83.9
Stella (Ottawa 58) .....	4851	750	4	78.4	4	43.4	4	47.3	4	28.3	4	22.9	44.1	5	92.8
Velvet .....	4252	755	4	85.4	4	43.3	4	51.4	4	30.0	4	28.6	47.7	5	100.5
Colsess .....	2792	772	4	60.3	4	60.0	4	38.3	4	37.3	4	37.3	4	116.6	4
Trebi .....	936	753	4	75.6	4	66.6	4	53.1	4	34.8	4	34.8	4	137.0	4
Regal .....	5030	742	4	58.6	4	58.6	4	45.6	4	29.8	4	29.8	3	114.1	4
Glabron .....	4577	718	4	29.8	4	29.8	4	29.8	2	30.1	4	30.1	1	100.3	3
Gordon (Ottawa 55) .....	4842	833	4	37.8	4	37.8	4	37.8	2	25.9	4	25.9	1	127.3	3
Manchurian (Ottawa 50) .....	4832	726	4	31.8	4	31.8	4	31.8	4	28.8	4	28.8	2	99.2	3
Sol (Sixty-Day) .....	5031	782	4	22.2	4	22.2	4	22.2	2	28.0	4	28.0	1	74.7	3
Sans Barb .....	5970	746	4	24.9	4	24.9	4	24.9	2	24.9	4	24.9	4	72.7	3
Rosthern:															
Albert (Ottawa 54) .....	4852	701	4	34.3	4	34.3	4	39.4	4	26.3	4	26.3	4	55.7	4
Bearer (Ottawa 475) .....	4707	704	4	62.0	4	62.6	4	50.8	4	45.6	4	61.9	56.6	5	95.6
Canadian Thorpe .....	740	816	4	50.8	4	63.2	4	57.3	4	50.2	4	70.0	58.3	5	98.5
Charlottetown 80 .....	2732	817	4	67.9	4	56.1	4	57.9	4	55.6	4	64.0	60.3	5	101.9
Duckbill (Ottawa 57) .....	1916	826	4	36.6	4	37.2	4	44.9	4	39.0	4	57.3	43.0	5	72.7
Early Chevalier (Ottawa 51) .....	2725	821	4	53.2	4	53.2	4	53.2	4	46.7	4	51.7	51.6	5	87.2
Gold .....	1145	829	4	64.4	4	54.9	4	56.7	4	44.2	4	42.7	52.6	5	88.9
Hannchen .....	531	837	4	67.9	4	74.2	4	62.0	4	58.5	4	67.1	65.9	5	111.5
Himalayan (Ottawa 59) .....	4838	765	4	43.7	4	46.7	4	67.9	4	67.7	4	55.0	56.2	5	95.0
Horn .....	926	838	4	60.8	4	69.5	4	70.9	4	64.4	4	62.3	65.6	5	110.9
Manchurian (Ottawa 50) .....	4832	726	4	60.8	4	70.3	4	44.9	4	46.7	4	55.4	55.6	5	94.0
Mensury (Ottawa 60) .....	4696	730	4	56.7	4	75.6	4	50.2	4	53.1	4	67.9	60.7	5	102.6
O. A. C. 21 <sup>1</sup> .....	1470	734	4	61.4	4	69.1	4	54.9	4	51.0	4	59.4	59.2	5	100.0
O. A. C. 21 (Saskatchewan 228) .....	4708	735	4	57.3	4	76.2	4	53.7	4	54.6	4	66.6	61.7	5	104.3
Star .....	1701	748	4	56.7	4	60.2	4	47.2	4	53.5	4	66.6	56.8	5	96.1
Stella (Ottawa 58) .....	4851	750	4	60.2	4	63.8	4	53.3	4	61.9	4	61.9	4	99.3	4

<sup>1</sup> Yields unreliable; 2 seedings, therefore, not included in average.

<sup>2</sup> Standard variety with which others are compared.



TABLE 43.—Acre yields of varieties of barley grown at the experimental farm at Indian Head, at the experimental stations at Rosthern, Scott, and Swift Current, and at the University of Saskatchewan, Saskatoon, Saskatchewan, in 1 or more of the years 1927-31—Continued

Station and variety	C.I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
				Bu.		Bu.		Bu.		Bu.		Bu.	Bu.	Pct.	
Rosthern—Continued.															
Trebi.....	936	753	4	68.5	4	70.0	4	63.2	4	69.2	4	60.2	66.2	5	111.9
Velvet.....	4252	755	4	66.1	4	76.2	4	53.2	4	51.0	4	62.3	61.8	5	104.4
Colless.....	2792	772	—	—	—	—	—	57.9	4	59.2	4	66.7	—	3	111.2
Regal.....	5030	742	—	—	—	—	—	71.5	4	59.2	4	76.9	—	3	125.6
Glabron.....	4577	718	—	—	—	—	—	—	4	53.3	4	60.8	—	2	103.4
Gordon (Ottawa 55).....	4842	833	—	—	—	—	—	—	4	40.4	4	46.3	—	2	78.5
Plumage Archer.....	5033	806	—	—	—	—	—	—	4	46.2	4	50.2	—	2	87.3
Sol (Sixty-Day).....	5031	782	—	—	—	—	—	—	4	56.5	4	44.2	—	2	91.2
Sans Barb.....	5970	746	—	—	—	—	—	—	—	—	4	51.5	—	1	86.7
Scott:															
Albert (Ottawa 54).....	4852	701	4	50.8	4	40.4	4	16.8	4	58.0	4	24.4	38.1	5	83.7
Bark.....	2793	703	4	71.8	4	33.6	4	7.5	4	35.8	4	44.6	38.7	5	85.0
Bearer (Ottawa 475).....	4707	704	4	79.7	4	43.8	4	10.2	4	49.2	4	48.1	46.2	5	101.5
Canadian Thorpe.....	740	816	4	64.5	4	40.7	4	11.5	4	39.9	4	41.2	39.6	5	86.9
Charlottetown 80.....	2732	817	4	60.9	4	65.5	4	18.0	4	54.7	4	50.8	50.0	5	109.8
Duckbill (Ottawa 57).....	1916	826	4	43.5	4	44.3	4	6.7	4	33.9	4	28.8	31.4	5	69.1
Early Chevalier (Ottawa 51).....	2725	821	4	71.7	4	31.4	4	14.0	4	48.4	4	41.8	41.5	5	91.1
Gold.....	1145	829	4	63.5	4	62.1	4	20.7	4	37.6	4	54.8	47.4	5	104.9
Hannchen.....	531	837	4	69.3	4	64.4	4	18.0	4	60.8	4	59.7	54.4	5	119.6
Himalayan (Ottawa 59).....	4838	765	4	72.1	4	56.0	4	19.7	4	51.4	4	45.1	48.9	5	107.4
Manchurian (Ottawa 50).....	4832	726	4	73.8	4	50.9	4	5.6	4	29.6	4	39.7	39.9	5	87.7
Mensury (Ottawa 60).....	4696	730	4	84.2	4	48.3	4	6.4	4	54.9	4	36.2	46.0	5	101.1
O.A.C. 21 <sup>2</sup> .....	1470	734	4	77.1	4	43.4	4	8.8	4	54.5	4	43.7	45.5	5	100.0
O.A.C. 21 (Saskatchewan 228).....	4708	735	4	72.4	4	50.3	4	7.1	4	40.5	4	43.1	42.7	5	93.8
Pearl.....	4834	780	4	53.7	4	21.1	4	14.0	4	39.9	4	37.0	33.1	5	72.8
Star.....	1701	748	4	84.0	4	66.4	4	11.1	4	51.2	4	51.4	52.8	5	116.1
Trebi.....	936	753	4	84.7	4	45.1	4	13.1	4	56.7	4	55.4	51.0	5	112.1
Velvet.....	4252	755	4	69.9	4	63.6	4	7.2	4	46.9	4	42.2	46.0	5	101.0
Colless.....	2792	772	—	—	4	44.5	4	19.1	4	64.8	4	48.8	—	4	117.8
Plumage Archer.....	5033	806	—	—	—	—	4	7.3	4	32.7	4	40.6	—	3	75.3
Binder.....	4703	810	—	—	—	—	—	—	4	59.7	4	58.3	—	2	120.2
Glabron.....	4577	718	—	—	—	—	—	—	4	49.3	4	43.6	—	2	94.6
Gordon (Ottawa 55).....	4842	833	—	—	—	—	—	—	4	38.7	4	38.0	—	2	78.1
Horn.....	926	838	—	—	—	—	—	—	4	52.3	4	63.5	—	2	117.9
Regal.....	5030	742	—	—	—	—	—	—	4	55.3	4	49.4	—	2	106.6
Sol (Sixty-Day).....	5031	782	—	—	—	—	—	—	4	55.3	4	34.4	—	2	91.3
Swift Current:															
Albert (Ottawa 54).....	4852	701	4	28.3	4	17.3	4	21.4	4	18.8	—	—	21.5	4	58.4
Bearer (Ottawa 475).....	4707	704	4	59.0	4	44.3	4	14.4	4	27.5	—	—	36.3	4	98.9
Canadian Thorpe.....	740	816	4	57.3	4	40.9	4	16.5	4	17.7	—	—	33.1	4	90.2
Charlottetown 80.....	2732	817	4	63.2	4	51.6	4	22.4	4	21.0	—	—	39.6	4	107.8
Duckbill (Ottawa 57).....	1916	826	4	46.7	4	32.2	4	7.8	4	10.2	—	—	24.2	4	66.0
Early Chevalier (Ottawa 51).....	2725	821	4	56.1	4	28.1	4	15.8	4	23.8	—	—	31.0	4	84.3
Gold.....	1145	829	4	57.9	4	58.2	4	34.3	4	22.5	—	—	43.2	4	117.8
Hannchen.....	531	837	4	60.8	4	51.2	4	27.8	4	22.9	—	—	40.7	4	110.8
Horn.....	926	838	4	57.3	4	70.0	4	25.8	4	27.3	—	—	45.1	4	122.9
Mensury (Ottawa 60).....	4696	730	4	51.4	4	34.0	4	14.5	4	24.6	—	—	31.1	4	84.8
O.A.C. 21 <sup>2</sup> .....	1470	734	4	55.5	4	48.8	4	18.5	4	24.0	—	—	36.7	4	100.0
O.A.C. 21 (Saskatchewan 228).....	4708	735	4	58.5	4	36.3	4	23.0	4	22.3	—	—	35.0	4	95.4
Pearl.....	4834	780	4	44.9	4	30.7	4	20.9	4	16.3	—	—	28.2	4	76.8
Success.....	2707	783	4	48.4	4	13.8	4	10.4	4	15.6	—	—	22.1	4	60.1

<sup>2</sup> Standard variety with which others are compared.

TABLE 43.—*Acre yields of varieties of barley grown at the experimental farm at Indian Head, at the experimental stations at Rosthern, Scott, and Swift Current, and at the University of Saskatchewan, Saskatoon, Saskatchewan, in 1 or more of the years 1927-31—Continued*

Station and variety	C. I. no.	Canadian accession no.	Number of plots and acre yield										Number of years grown and yield in comparison with standard variety for comparable years		
			1927		1928		1929		1930		1931				Average yield, 1927-31
			Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield	Plots	Yield			
													Year	Yield	
Swift Current—Con.				Bu.		Bu.		Bu.		Bu.		Bu.		Pct.	
Star.....	1701	748	4	56.7	4	20.1	4	16.4	4	15.0			27.1	4	73.7
Stella (Ottawa 58).....	4851	750	4	53.2	4	28.8	4	15.7	4	15.0			23.2	4	76.8
Swedish Chevalier.....	4837	818	4	72.6	4	69.0	4	18.6	4	20.0			45.1	4	122.8
Velvet.....	4252	755	4	63.2	4	29.6	4	16.3	4	21.5			32.7	4	89.0
Plumage Archer.....	5033	806					4	12.0	4	15.4				2	64.5
Sans Barb.....	5970	746					4	26.1	4	29.8				2	131.5
Trebi.....	936	753					4	23.6	4	31.5				2	129.6
Colsess.....	2792	772							4	27.9				1	116.3
Regal.....	5030	742							4	30.2				1	125.8
Sol (Sixty-Day).....	5031	782							4	21.6				1	90.0
Saskatoon:															
Trebi (Saskatchewan 1605).....	936	753	6	91.9	6	115.4	6	42.2	6	68.2	6	49.8	73.5	5	120.6
Hannchen <sup>1</sup> (Saskatchewan 229).....	4841	837	6	77.9	6	81.3	6	44.9	6	54.2	6	46.4	60.9	5	100.0
O.A.C. 21 (Saskatchewan 228).....	4708	735	6	63.3	6	85.0	6	27.9	6	57.3				4	90.4
Colsess (Saskatchewan 1636).....	2792	772	6	79.8	6	89.7	6	36.0	6	61.9	6	36.9	60.9	5	99.9
Regal (Saskatchewan 1865).....	5030	742	6	64.9	6	107.8	6	44.4	6	70.8	6	42.2	66.0	5	108.3
Sol (Sixty-Day) (Saskatchewan 1667).....	5031	782	6	43.5	6	55.3	6	19.0	6	43.7				4	62.5
Sandrel (Saskatchewan 822).....	937	745	6	86.6	6	95.7	6	34.4	4	50.6				4	103.5
Duckbill (Saskatchewan 1639).....	1916	826	4	70.0	6	59.3	6	18.1	4	46.4				4	75.0
Horn (Saskatchewan 2020).....	926	838			6	63.4	4	33.7	4	55.0				3	84.3
Bearer (Ottawa 475) (Saskatchewan 1222).....	4707	704			6	72.8	6	28.5	4	33.9				3	74.9

<sup>1</sup>Standard variety with which others are compared.

## EXPERIMENTAL STATION, SCOTT

G. D. MATHEWS, Superintendent

The yields reported from Scott (table 43) show that Hannchen (C.I. 531) has been the best variety during the past 5 years. Its performance has been so consistent that, considering only the results at Scott, there seems no reason for mentioning a second choice. Hannchen is recommended to barley growers. Barley should be seeded the second week in May at the rate of 6 pecks per acre.

## EXPERIMENTAL STATION, SWIFT CURRENT

J. G. TAGGART, Superintendent

The two-rowed varieties made a slightly better showing than the six-rowed varieties at Swift Current for the years reported in table 43. In yield, Hannchen (C.I. 531) and Gold are the leading two-rowed

varieties, and Trebi and O.A.C. 21 (C.I. 1470) are the leading six-rowed varieties. Based on long-time records, Hannchen and Trebi are recommended. Barley should be planted about May 5 to 10 at the rate of 6 pecks per acre.

UNIVERSITY OF SASKATCHEWAN, SASKATOON

MANLEY CHAMPLIN, *senior professor*, and J. B. HARRINGTON, *Cereal Breeding and Variety Testing, Field Husbandry Department*

Trebi and Regal have produced high yields at Saskatoon (table 43). Hannchen has continued to yield well. Trebi, Hannchen (C.I. 4841), Regal, and Colsess are recommended to growers. Trebi is recommended for the whole of Saskatchewan and Hannchen for the western sections. Colsess has shown promise as a feed barley, and Regal gives indication of being valuable for both feed and malting. Of the varieties mentioned, Regal is the most likely to satisfy Canadian maltsters. Barley should be seeded in May at the rate of 6 pecks per acre.

OUTSTANDING VARIETIES

The position of the better varieties as shown by tests in the United States and Canada is represented in table 44. The second and fourth columns are based on actual yields for the 5-year period. In the second column is recorded the highest yielding variety at each place and in the fourth column is shown the next highest yielding variety. The seventh column is not dependable, but serves to call attention to some of the newer sorts. The tests were for shorter periods and the choice of varieties was arbitrarily made, as in many cases other varieties could be substituted with equal grounds.

Trebi produced the highest average yield at 31 stations. Bearer and Alpha were the leading varieties at 4 stations, while Horn, Club Mariout, and Velvet were best at 3. Although Hannchen led at only 2 stations, this variety and Velvet earn a higher rating, if second places are considered, as they ranked second in 12 and 7 instances, respectively. The only other varieties to place second at more than 3 places were Trebi at 11 and Horn at 6.

Of the newer varieties, Wisconsin Pedigree 38, Regal, Glabron, and other smooth-awned sorts, as yet unnamed, are rapidly assuming importance.

TABLE 44.—*Outstanding varieties grown at the experiment stations in the United States and Canada in the years 1927–31*

Station	5-year period, 1927–31				Showing promise in less than 5 years but more than 1 year		
	Best variety	C.I. or State no.	Second best variety	C.I. or State no.	Number of years	Variety	C.I. or State no.
Mesa, Ariz.	Common Six-Row	4625	Trebi	936	4	Sacramento	4108.
Sacaton, Ariz.	Club Mariout	261	do	936	3	Vaughn	1367.
Fayetteville, Ark.	Selection 6 (Ky.)	4678	Union Winter (Ky.)	583			
Davis, Calif.	Vaughn	1367	Sacramento	4108	3	Paso	5047.
Fort Collins, Colo.	Trebi	936	Hannchen	531	3	Atlas	4118.
Fort Lewis, Colo. <sup>1</sup>	do	936	Coast	2791	2	Arequipa	1256.
Akron, Colo.	Club Mariout	261	Vance (White Smyrna)	4585	4	Comfort	4578.
Athens, Ga.	Greece	4593	Argentine	4594			
Tifton, Ga. <sup>1</sup>	Tennessee Winter, selection 66.	3546	Greece	4593	3	Nakano Wase	2164.
Experiment, Ga.	Greece	Ga. 168	Tennessee Winter Hooded.	Ga. 184	4	Tennessee Winter	Ga. 169.
Moscow, Idaho (spring)	Trebi	936	White Smyrna	910	3	Ace	1853.
Moscow, Idaho (winter)	Winter Club	488			4	Michigan Winter	2036.
Aberdeen, Idaho	Trebi	936	Flynn	1311	4	Arequipa	1256.
Felt, Idaho	Meloy	1176	Trebi	936			
Sandpoint, Idaho	Han River	206	Horsford	4665	3	Hannchen	531.
Urbana, Ill.	Lion	923	Velvet	4252	4	Wisconsin Pedigree 37.	5028.
De Kalb, Ill.	do	923	do	4252	3	do	5028.
La Fayette, Ind. (spring)	Alpha	959	Trebi	936	2	Wisconsin Pedigree 38.	5105.
La Fayette, Ind. (winter)	Purdue 21	4581	Purdue 1101	4582			
Ames, Iowa <sup>1</sup>	Trebi	936	Velvet	4252	3	Spartan	5027.
Mason City, Iowa					3	Trebi	936.
Hays, Kans.	White Smyrna	195	Flynn	1311	4	Vaughn	1367.
Colby, Kans.	Colby Six-Rowed	5919	do	1311	4	Huntington	4110.
Garden City, Kans.					3	Club Mariout	261.
Tribune, Kans.	Flynn	1311	Club Mariout	261	3	Stavropol H. C. 249.	5913.
Manhattan, Kans.					3	Flynn	1311.
East Lansing, Mich. <sup>1</sup>	Alpha	959	Michigan Two-Row	2782	4	Glaboron	4577.
St. Paul, Minn.	Trebi	936	Smooth Awn	5998 (Minn. 462)			
Duluth, Minn.	do	936	Manchuria×Smooth Awn.	4667 (Minn. 457)	3	Svanhals×Lion	6000 (Minn. 475).
Waseca, Minn.	do	936	Smooth Awn	5998 (Minn. 462)	3	do	6000 (Minn. 475).
Grand Rapids, Minn.	Svansota	1907	Manchuria×Smooth Awn.	4667 (Minn. 457)	4	Smooth Awn	5998 (Minn. 462).
Morris, Minn.	Trebi	936	Svansota	1907	3	Svanhals×Lion	6000 (Minn. 475).
Crookston, Minn. <sup>1</sup>	Smooth Awn	5998 (Minn. 462)	do	1907	3	do	6000 (Minn. 475).
Columbia, Mo.					3	Limerick	1302.
Grain Valley, Mo.					2	Trebi	936.
Maryville, Mo.					2	do	936.

Bozeman, Mont.	Trebi.	936	B×White Club B.	4674	2	Atlas	4118.
Moccasin, Mont.	Coast	690	Horn	926	4	Trebi.	936.
Havre, Mont.	Horn	926	Trebi.	936	4	Spartan	5027.
Huntley, Mont.	Trebi.	936	Horn	926			
Lincoln, Nebr.	do	936	Glabron	4577	4	Wisconsin Pedigree 37.	5028.
North Platte, Nebr.	Short Comfort	5907	Trebi.	936	3	North Platte No. 4	5488.
New Brunswick, N.J.	Alpha	959	do. <sup>1</sup>	936	3	Bon Ami	4664.
State College, N. Mex. (spring)	Hanna	2758	Colless	2792			
State College, N. Mex. (winter)	Unnamed	4673	Unnamed	4672			
Capulin, N. Mex.	Club Mariout.	261	White Smyrna <sup>1</sup>	195	4	Stavropol	2103.
Ithaca, N.Y.	Unnamed State selection 106-181.		Unnamed State selection 104-37.		4	Unnamed	(Cornell 2A-22-420-3).
Statesville, N.C.					3	Rowan (North Carolina).	5672.
Fargo, N. Dak.	Trebi.	936	Hannchen	531	4	Svansota	1907.
Edgeley, N. Dak.	do	936	do	531	4	Odessa	182.
Hettinger, N. Dak. <sup>1</sup>	do	936	do	531	3	Velvet	4252.
Langdon, N. Dak.	do	936	do	531	2	Wisconsin Pedigree 37.	5028.
Williston, N. Dak.	do	936	do	531	4	Glabron	4577.
Mandan, N. Dak.	do	936	Odessa	182	3	do	4577.
Dickinson, N. Dak.	Steigum	907	Lion	923	4	do	4577.
Wooster, Ohio	Velvet	4252	Horn	926	4	do	4577.
Columbus, Ohio	Trebi.	936	Featherston	1120	3	do	4577.
Paulding County, Ohio	Glabron	4577	Oderbrucker	836	4	Trebi.	936.
Miami County, Ohio	Oderbrucker	836	Velvet	4252	3	Glabron	4577.
Madison County, Ohio	Velvet	4252	Oderbrucker	836	3	do	4577.
Hamilton County, Ohio	Oderbrucker	836	Velvet <sup>1</sup>	4252	3	Spartan	5027.
Stillwater, Okla. <sup>1</sup>	Tenkow	646	Hero	1286	4	Limerick	1302.
Ardmore, Okla.					2	Vaughn	1367.
Lawton, Okla.	Han River	206	Pidor	901	4	Tennessee Winter Selection 66.	3546.
Corvallis, Oreg. (spring) upland	Hannchen	531	O. A. C. No. 7	2814	4	Ben Beardless	4687.
Corvallis, Oreg. (spring) bottom-land. <sup>1</sup>	O. A. C. No. 7	2814	Ben Beardless	4687	3	Trebi.	936.
Corvallis, Oreg. (winter) <sup>1</sup>	O. A. C. No. 7 Selection 6.	5954	Alaska	4106			
Moro, Oreg.	Trebi.	936	Peruvian	935	4	Flynn Selection 1	5911.
Union, Oreg.	do	936	Blue	1247	4	O. A. C. No. 7	2814.
Burns, Oreg.	do	936	O. A. C. No. 7 <sup>1</sup>	2814			
Pendleton, Oreg.					3	Trebi.	936.
State College, Pa.	Comfort	4578	Velvet	4252	2	Wisconsin Pedigree 38.	5105.
Clemson College, S.C.	Winter Bearded		Awnless	4693	4	Awnless	4694.
Brookings, S. Dak.	Odessa	182	Trebi.	936			
Eureka, S. Dak. <sup>1</sup>	do	182					
Highmore, S. Dak.	Lion×Manchuria	6001 (S. Dak. 1340)	Coast×Lion	6002 (S. Dak. 1343)	4	Glabron	4577.
Ardmore, S. Dak.	White Smyrna	658	Horn	926	4	Ace	1853.
Newell, S. Dak.	Trebi.	936	White Smyrna	195			

<sup>1</sup> Yields for 4 years only.

TABLE 44.—*Outstanding varieties grown at the experiment stations in the United States and Canada in the years 1927-31—Continued*

Station	5-year period, 1927-31				Showing promise in less than 5 years but more than 1 year		
	Best variety	C.I. or State no.	Second best variety	C.I. or State no.	Number of years	Variety	C.I. or State no.
Redfield, S. Dak.					3	White Smyrna	658.
Knoxville, Tenn.	Tennessee Winter Selection 52.	3543.	Union Winter	583.			
Denton, Tex.					2	Finley (local)	5901.
San Antonio, Tex.	Texas Winter	554	Hannchen	531	3	Vaughn	1367.
Logan, Utah	Atlas	4118.	Unnamed	Colorado 3154	3	Sacramento	4108.
Roslyn, Va. (Arlington Experiment Farm).	Esaw	4690.	Tennessee Winter Selection 12.	3534	2		
Pullman, Wash. (spring)	Blue	1247	Beldi Giant	2777			
Pullman Wash. (winter)	Winter Club	592	Wisconsin Winter	519.			
Prosser, Wash.	Blue	1247	Trebi <sup>1</sup>	936.	4	Beldi Giant	2777.
Lind, Wash.	Beldi Giant	2777	Meloy	1176			
Morgantown, W. Va.	Alpha	959	Manchuria	244.			
Madison, Wis.	Glabron	4577	Comfort	4578	4	Wisconsin Hybrid	5944.
Laramie, Wyo. (irrigated)	Horn	926	Odessa	182.			
Archer, Wyo. (dry land)	Coast	690	Trebi	936.	2	Vaughn	1367.
Sheridan, Wyo. (dry land)	Trebi	936	Horn	926.	3	do	1367.
Lethbridge, Alberta (irrigated)	do	936	Hannchen	531	2	Regal	5030.
Lethbridge, Alberta (dry land)	do	936	do	531	2	Hanna	5975.
Lacombe, Alberta <sup>1</sup>	do	936	do	531	2	Regal	5030.
Beaverlodge, Alberta	do	936	Star	1701	2	do	5030.
Fort Vermilion, Alberta	Manchurian (Ottawa 50).	4832.	Albert	4852	3	Plumage Archer	5033.
Edmonton, Alberta	265×O. A. C. 21.		Trebi	936	2	Star	1701.
Agassiz, British Columbia <sup>1</sup>	Bearer	4707	O. A. C. 21	1470	3	Trebi	936.
Sydney, British Columbia	Gold	1145.	Bearer	4707	3	Charlottetown 80	2732.
Brandon, Manitoba	Star	1701	Velvet	4252	3	Regal	5030.
Morden, Manitoba <sup>1</sup>	Trebi	936	Mensury	4696	4	Velvet	4252.
Fredericton, New Brunswick	O. A. C. 21.	1470.	Bearer	4707	4	Trebi	936.
Nappan, Nova Scotia	Manchurian (C.R. 14)	4833	Charlottetown 80	2732	4	do	936.
Ottawa, Ontario	Early Chevalier	2725	Manchurian (C.R. 14)	4833	4	do	936.
Kapuskasing, Ontario	Binder	4703.	Hannchen	531	4	do	936.
Guelph, Ontario	Velvet	4252	Bearer	4707			
Charlottetown, Prince Edward Island	Charlottetown 80	2732.	O. A. C. 21	1470	2	Binder	4703.
Cap Rouge, Quebec	Bearer	4707	Mensury	4696	2	Trebi	936.
Lennoxville, Quebec <sup>1</sup>	Charlottetown 80	2732.	Manchurian (C.R. 14)	4833	2	Alpha	959.
Ste. Anne de la Pocatiere, Quebec	Bearer	4707	Star	1701	4	Trebi	936.
MacDonald College, Quebec	do. <sup>1</sup>	4707	O. A. C. 21 <sup>1</sup>	1470	4	Charlottetown 80 <sup>1</sup>	2732.
Indian Head, Saskatchewan	Maltster	585	Hannchen	531			
Rosthern, Saskatchewan	Trebi	936	Horn	926.	3	Regal	5030.
Scott, Saskatchewan	Hannchen	531	Star	1701	2	Binder	4703.
Swift Current, Saskatchewan <sup>1</sup>	Horn	926	Swedish Chevalier	4837	2	Sans Barb	5970.
Saskatoon, Saskatchewan	Trebi	936	Regal	5030	4	Sandrel	937.

<sup>1</sup> Yields for 4 years only.<sup>1</sup> Yields for 5 years in separate test of 2-rowed varieties.

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Svanhals×Lion:		Wisconsin Pedigree 38 (*5105)	7
C.I. 5999	12	8, 12, 17, 18, 20, 24, 32, 33, 44	
6000	12, 44	Wisconsin Winter	5
Svansota (*1907)	4, 12, 16, 20, 22, 23, 26, 44	C.I. 519	6, 22, 31, 44
Swedish Chevalier (*4837)	35, 43, 44	2159	1, 2, 23, 27, 28, 30
Swiss Spring	18	2167	30
C.I. 5900	18, 24	Wood Beardless	25
Syria (*1259)	22	Zond (*1138)	22